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Manuscripts: Scientific Articles, Case Reports, etc., from any state for which this is the Official Journal should be submitted to the Scientific Editor for that state as named in the Editorial Board, above. Other material from any participating state should be submitted to the Associate Editor for that state as named above. Manuscripts from outside the Rocky Mountain area should be sent direct to the Journal office. Manuscripts must be typewritten, double or triple spaced, using only one side of each sheet. It is the policy of this Journal to omit bibliographies.

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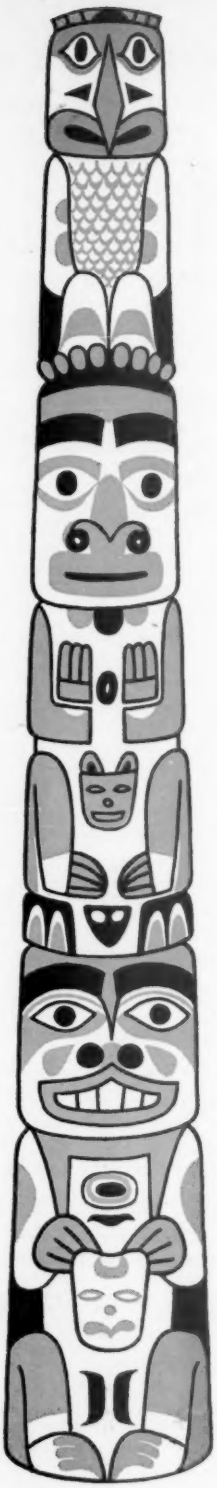

1. Tuft, L.: Clinical Allergy. Philadelphia, W. B. Saunders Co., 1947, pp. 335-336.
2. Hansel, F. K.: Allergy of the Nose and Paranasal Sinuses. St. Louis, C. V. Mosby Co., 1936, p. 769.
3. Kelley, S. F.: Choice of Sympathomimetic Amines. Cornell Conferences on Therapy, II, 1947, p. 156.

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THE COLORADO STATE MEDICAL SOCIETY

NEXT ANNUAL SESSION: SHIRLEY-SAVOY HOTEL, DENVER, SEPTEMBER 18, 19, 20, 21, 1951.

OFFICERS

Terms on Officers and Committees expire at the Annual Session in the year indicated. Where no year is indicated, the term is for one year only and expires at the 1951 Annual Session.

President: Ervin A. Hinds, Denver.
President-Elect: Harry C. Bryan, Colorado Springs.
Vice President: Samuel P. Newman, Denver.
Constitutional Secretary (three years): George R. Buck, Denver, 1951.
Treasurer (three years): George C. Shivers, Colorado Springs, 1953.

Additional Trustees (three years): Claude D. Bonham, Boulder, 1951; Cyrus W. Anderson, Denver, 1952; E. H. Munro, Grand Junction, 1952; M. L. Phelps, Denver, 1953.

(The above nine officers compose the Board of Trustees of which Dr. Samuel P. Newman is the 1950-1951 Chairman.)

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Foundation Advocate: Walter W. King, Denver.

House of Delegates: Speaker, Wiley Jones, Denver; Vice Speaker, Paul R. Hildebrand, Brush.

Executive Office Staff. Mr. Harvey T. Sethman, Executive Secretary; Miss Helen Kearney, Assistant Executive Secretary; Mr. Evan A. Edwards, Public Relations Director and Field Secretary, 835 Republic Building, Denver 2, Colorado. Telephone AComa 0547.

General Counsel: Mr. J. Peter Nordlund, Attorney-at-Law, Denver.

STANDING COMMITTEES

Arrangements: Wm. M. Covode, Denver, Chairman; others to be appointed.

Credentials: George R. Buck, Denver, Chairman; James M. Lamme, Sr., Walsenburg; C. H. Graf, Boulder; C. G. Freed, Denver; F. J. McDonald, Leadville.

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Sub-Committee on Weekly Health Column: Frank C. Campbell, Chairman, Denver; J. Lawrence Campbell, Denver; Edward L. Binkley, Denver; Howard F. Bramley, Denver; George H. Curfman, Jr., Denver; James S. Cullyford, Denver.

Sub-Committee on Monthly Health Article: R. C. Scannell, Denver, Chairman; F. A. Humphrey, Fort Collins; H. J. Dodge, Denver; C. F. Kemper, Denver; Edgar Durbin, Denver; Mariana Gardner, Denver.

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Representatives to Adult Education Council: Cyrus W. Anderson and William E. Hay, both of Denver.

Rocky Mountain Medical Conference: G. P. Lingenfelter, Denver, Chairman, 1952; D. W. Macomber, Denver, 1954; L. Clark Hepp, Denver, 1953; Ward Darley, Denver, 1951; Terry J. Gromer, Denver, 1955.

MONTANA MEDICAL ASSOCIATION

NEXT ANNUAL SESSION: GREAT FALLS, SEPTEMBER 13, 14, 15, 16, 1951.

OFFICERS, 1950-1951

Terms of Officers and Committees expire at the Annual Session in the year indicated. Where no year is indicated, the term is for one year only and expires at 1951 Annual Session.

President: Clyde H. Frederickson, Missoula.
President Elect: Frank L. McPhail, Great Falls.
Vice President: James M. Flinn, Helena.
Secretary-Treasurer (in absentia): H. T. Caraway, Billings.
Asst. and Acting Secretary-Treasurer: Everett H. Lindstrom, Helena.
Executive Secretary: Mr. L. R. Hegland, 240 Stapleton Building, Billings, Montana.
Delegate to American Medical Association: Raymond F. Peterson, Butte; Alternate, Thomas L. Hawkins, Helena.

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Mental Hygiene Committee: Winfield S. Wilder, Chairman, Great Falls; James J. Bulger, Great Falls; Roger W. Clapp, Butte; J. E. Kress, Missoula; Martin A. Buona, Billings; Maurice A. Shillington, Glendive.

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NEW MEXICO MEDICAL SOCIETY

NEXT ANNUAL SESSION: LA FONDA HOTEL, SANTA FE, MAY 3, 4, 5, 1951

OFFICERS—1950-51

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Vice President: Coy S. Stone, Hobbs.
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Executive Secretary: Mr. Ralph R. Marshall, Albuquerque.

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Delegate to A.M.A.: John F. Conway, Clovis, 1951.
Alternate Delegate to A.M.A.: C. H. Gellenthien, Valmora, 1951.

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Board of Supervisors: Two Years: C. Pardue Bunch, M.D., Artesia, Chairman; H. L. January, M.D., Albuquerque, Secretary; V. E. Berchtold, M.D., Santa Fe; John F. Conway, M.D., Clovis. One Year: W. E. Badger, M.D., Hobbs; L. J. Whitaker, M.D., Deming; H. M. Mortimer, M.D., Las Vegas; Frank W. Parker, M.D., Gallup.

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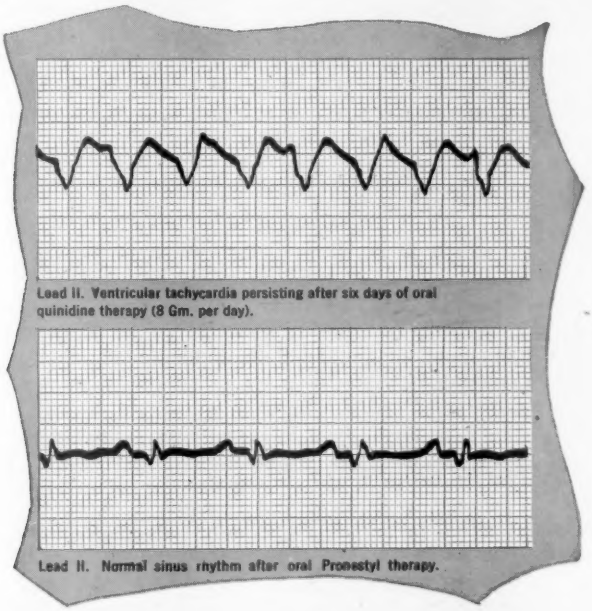

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Rocky Mountain Medical Journal
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1951

Editorial

Important Birthday In New Mexico

NEW MEXICO Physicians' Service has just celebrated its fifth birthday. Looking at it as it is today, a vigorous and effective means of serving thousands of New Mexico residents, only a few appreciate the worries that this prepaid plan caused those who have attempted to steer its course from its beginning.

"NMPS" is the answer of New Mexico physicians to the problem which the glowing promises of socialized medicine would not solve, in a state particularly susceptible to such promises. NMPS is tangible evidence of what physician cooperation can accomplish. Few states could have presented more obstacles against creation and operation of a physician-controlled voluntary health insurance plan. As a medical society we lacked knowledge, financing, and organization. Few states have less population density. One of our advantages was that we had close friends among our colleagues in California; the California Medical Association and its own highly successful plan, California Physicians' Service, taught us how to organize, gave us the knowledge we lacked in many other fields and helped materially with a financial loan (which is now being repaid) for our early operation.

Just as adversity tends to bring closer members of a group, the many problems that arose with an active New Mexico Physicians' Service made our physicians rally, as they probably have for no other enterprise the profession has attempted in the history of our medical society. We simply **had** to make the Plan work. NMPS is definitely working, offering real protection, not vague promises. Incidently, it has forced competing companies and plans to improve their coverage. In our battle anything truly to the patient's advantage is to the profession's gain.

Five years' experience has taught NMPS a number of lessons. For example, we cannot be both as liberal as our humanitarian desires would urge us and at the same time operate with very limited finances. Again, we experimented with the non-profit hospital plan movement only to find its directors as confused and as financially embarrassed as we were ourselves. We learned that the medical profession might logically enter into agreements with commercial insurance companies to underwrite their voluntary plans. Other states besides New Mexico are doing this. NMPS now has adequate finances without giving up medical control of its Plan. No company underwriting it can make any change without the consent of the Board of Trustees of the New Mexico Physicians' Service.

It was the writer's privilege when he was President of the New Mexico Medical Society to appoint the original Board of Trustees of NMPS; each year since then the House of Delegates elects one-third of the members of the Board for three-year terms. This Board and particularly Dr. John F. Conway, President of the Service, has furnished the leadership to keep alive a movement which at many times seemed to have every reason for ceasing its existence. Final credit for the success of the Plan, however, belongs to those physicians whose satisfactory services, at personal sacrifice to themselves, have made the people of New Mexico see that there is no need for another government agency handout in the field of medicine—to see also that their own physicians can make good on a voluntary basis, whereas Washington's promises are still just promises.

CARL H. GELLENTHIEN, M.D.

Prevalence of Tuberculosis

CAN the average citizen be taught the simple basic facts about tuberculosis so that he will be influenced to change his attitudes and habits. Since the hiatus between knowledge and behavior continues to be somewhat of an enigma, the modern educator is increasingly concerning himself with individual and group motivation in an effort to discover the "whys and wherefores" of behavior and the relationship existing between them.

The results of two tuberculosis information polls taken in Denver in 1947 and 1949 by the National Opinion Research Council, in cooperation with the National Tuberculosis Association, have been released by the Denver Tuberculosis Society.

On the whole the results indicate that Denverites are becoming more aware of the basic facts in regard to tuberculosis—its cause, care and cure. The increase in the average percentage score over the two year period is attributed largely to the community tuberculosis campaign, in conjunction with the 1949 Mass Chest X-ray Survey. While the increase does not represent a major change in attitude it does point up the efficacy of health education procedures. Comparatively, women seemed to be better informed than men on the subject. For instance, more women than men realized that tuberculosis is an infectious disease and can be transmitted from person to person by contact. Men lagged behind women in the belief that a periodic chest x-ray is a good health practice. Further, fewer men than women were aware that tuberculosis is common in persons over forty years of age. The above facts attain significance in that the 1949 Mass Chest X-ray Survey findings for Denver indicate twice as much active tuberculosis among men as among women.

Answers to the poll questions also indicated that a large percentage of people in the Rocky Mountain region are misinformed concerning some of the basic facts. The belief that tuberculosis can be inherited, and that a person can easily tell if he has tuberculosis by the way he feels, constitute the greatest areas of misinformation. Of special interest and concern is the fact that many do not understand the value of sanatorium treatment.

The Denver Tuberculosis Society has a limited number of detailed reports that are available upon request. Requests should be sent to the Society, 634 Commonwealth Building, Denver.

SARA LOU HARRISON,
Chairman, Health Education Committee.

It Depends Upon Who Is Talking

OSCAR EWING, the Federal Security Administrator, as an unusual person.

This is because he is in the dual role of officially proclaiming continued amazing gains in U. S. health on one hand, while as President Truman's stooge for socialized medicine, he contradicts himself most regularly.

It must be rather confusing, even for a Washington bureaucrat in the current heavy fog along the Potomac, to occupy such a position. It does not, however, seem to deter Mr. Ewing. He goes right along, manfully doing his duty as he sees it in this peculiar dual role.

For example, his latest official report released in mid-April tells of important advances along the health front in this country during 1950. Physicians are well aware of these gains, having been major contributors to continued improvement of the health of the American people. The death rate has declined again, infant and maternal mortality have dropped more, and there were fewer cases of contagious disease. Heart disease and cancer continued as the first and second causes of death.

It is good to know that our health, as we suspected, continues to improve, thanks to the miracles of modern medical science. It is very interesting to note that Mr. Ewing, as head of the Federal Security Agency, officially reports these gains.

Next month, if he follows the pattern, he will probably revert to his role as stooge and proclaim that we must have socialized medicine because of the "deplorable state" of the health of the people.

Original Articles

PURULENT MENINGITIS*

RUSSELL J. BLATTNER, M.D.
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Meningitis is a serious and dangerous disease, and unnecessary delay in diagnosis of the condition may result in irretrievable loss of valuable time in getting effective treatment under way. It is essential, therefore, that clinicians suspect the infection whenever a diagnostic problem of this type is being considered. Proper steps must be taken promptly to rule meningitis in or out. Involvement of the meninges is suspected more readily in older children and adults, since meningitis in this age group is often associated with characteristic history of acute onset, fever, severe headache and vomiting. The older patient usually presents the physical findings of stiff neck, positive Kernig and Brudzinski signs, and in certain instances a characteristic skin rash is of diagnostic value. In the case of infants and young children, however, the diagnosis may be quite difficult. Persistence of fever, anorexia, and irritability may be the only evidence of serious meningeal infection. Indeed, the infant may present findings characteristic of any acute infection. Convulsions, when they occur, suggest involvement of the central nervous system. A positive Brudzinski and the presence of a bulging fontanel are indicative of meningeal involvement in young children. Cervical rigidity may not be present in the young infant; stiff back is sometimes a useful and early sign.

In view of the serious nature of the disease and the great difficulty in making a clinical diagnosis in the young patient, it is imperative that a diagnostic lumbar puncture be performed. The importance of an early diagnosis in meningitis outweighs any theoretic danger of infection of the meninges because of the possible presence of bacteremia. The importance of a careful and detailed study of the spinal fluid cannot be over-estimated. It is essential that every step possible be taken in an effort to determine the type of organism involved in the meningitic process. Adequate culture of the spinal fluid is necessary. If possible, immediate inoculation of culture media, such as chocolate agar slants with fluid taken directly from the spinal needle, is highly desirable. An adequate sample of spinal fluid, 5 to 8 c.c., should be obtained for further bacteriologic studies. The role of special technics for culture is best evaluated by laboratory workers. In our laboratory the use of the fertile egg technic has proved a useful adjunct to the routine bacteriologic methods and will be discussed later. Cell counts of the spinal fluid should include total white blood cell, red blood cell, and a differential count of the white blood cells. A high cell count may be associated with relatively few organisms. For example, in one instance white blood cell count of the spinal fluid was 20,000 and yet no bacteria could be seen on direct smear. On the other hand, a clear fluid with twenty-five to fifty cells may be teeming with organisms. In one instance, such a fluid was literally filled with pneumococci. It is important, therefore, that all fluids be cultured regardless of the gross appearance. Study of the direct smear often yields valuable information. Methylene blue is used in the detection of morphologic characteristics; Gram stain is useful in revealing the staining characteristics, and the wet preparation with cover slip is valuable for typing the organism. Other important studies of the spinal fluid include determinations of dextrose and protein content. It is also desirable that a blood culture be obtained from the patient at the time of admission, since valuable bacteriologic information

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may be gained from this relatively simple test.

The bacteria usually involved in the meningitic process include the meningococcus, the pneumococcus, hemolytic streptococcus, Hemophilus influenza, staphlococcus, and colon bacillus. Less frequently, the typhoid bacillus and various types in the salmonella group, non-hemolytic strains of streptococci, Friedlander bacillus, Pseudomonas pyocyaneus, Aerobacter aerogenes, lactobacillus and gonococcus are encountered in the spinal fluid.

In our laboratory we have found that, even when the above precautions were taken, the commonly used cultural methods failed in a disappointing number of instances to yield information concerning the exact organism. Clinical experience over a period of years indicated that on the basis of laboratory reports, 24 per cent of the cases of meningitis had been classified as sterile meningitis since all routine bacterial cultures were reported negative. It seemed probable that in such cases of so-called sterile meningitis, organisms were present but failed to grow, for in 45 per cent of these cases, questionable bacterial forms had been seen on direct smear of the spinal fluid. In our opinion, possible factors involved in this failure to isolate the infectious agent might be: (1) inadequacy of ordinary culture methods; (2) paucity or poor viability of organisms; (3) the presence in the body of chemotherapeutic or antibiotic agents administered prior to spinal fluid sampling.

In an attempt to reduce this instance of meningitis reported as sterile, spinal fluids from all patients suspected of having meningitis were cultured by the egg method simultaneously with culture by routine methods. Blood agar used contained 5 mgms. per cent of para-aminobenzoic acid in an attempt to cut down the inhibiting effect of sulfonamides which might have been administered prior to admission.

In the preliminary part of the study, fifty-two cases of acute meningitis were included, the patients ranging in age from 3 months to 65 years, the majority, however, being young children. In 69 per cent of these cases organisms were seen on direct smear of the spinal fluid. Among the fifty-two cases studied by these comparative methods, thirty-nine were cases of meningococcus infection. In thirty-eight of the thirty-nine meningococci were identified by one or both methods. In one case a single gram negative diplococcus was found on direct smear, but all cultural efforts to grow the organism failed. In three instances growth of meningococci was demonstrated by egg culture when simultaneous agar cultures were negative. Concerning the thirty-five cases in which meningococci were cultured by both egg and agar methods, in fourteen, or approximately 36 per cent, meningococci could be demonstrated without question by egg culture twenty-four to eighty-seven hours earlier—before definite growth could be observed on agar, even when the special culture methods of reduced oxygen and increased carbon dioxide tension were utilized. Whenever many organisms were seen on direct smear, growth was always good in the egg and usually eventually on agar. When, however, organisms were not seen on direct smear or were very few, the resulting growth on agar was usually sparse and considerably delayed, while growth in the egg usually could be demonstrated readily within twenty-four hours.

Thus had reliance been placed entirely on agar culture methods, our cases of "sterile meningitis" would have amounted to 8 per cent; as it was with egg culture methods, the incidence of "sterile meningitis" was only 2 per cent. In the single case in which no organism was cultured, only one extracellular gram negative diplococcus had been seen on direct smear. It is interesting to note that the spinal fluid cell count in this case was 24,000. Since the manner of handling this fluid was identical with that employed with the other fluids, the viability of the organism at the time of sampling was questioned. It is possible that natural body defenses were unusually efficient in this case. The mild clinical course of the patient seemed to support this interpretation.

Similar series, composed of smaller numbers of cases, were followed in pneumococ-

cic meningitis and in meningitis due to H. influenzae. The value of the egg culture method was evident, the delay period being reduced by as much as thirty hours, and both groups of organisms being typed readily directly from the egg culture.

In studies of spinal fluid during therapy it was shown by the egg method that viable organisms may persist even in the presence of high levels of drug. The results gave objective support to the clinical impression that chemotherapy must be continued for a reasonably long period even after definite clinical improvement has been noted. As a result of this research study, the egg technic was made a routine procedure, initial spinal fluids being cultured by the usual methods and by the egg method as well, and follow-up culture being carried out in selected cases.

Examples such as the following re-emphasized the value of this procedure. In seven cases of pneumococcus meningitis, including Types I, II, IV, XIII, XVIII and XXIII, the egg culture was positive in one or more samples of spinal fluid taken at intervals when blood agar cultures were negative. In ten cases of influenzal meningitis similar results were obtained. In one instance of influenzal meningitis the only positive culture was obtained by egg method. The organism proved to be a rather uncommon non-encapsulated form of H. influenzae. These bacteriologic results have been of great value in early initiation of specific therapy and in carrying through a rational program of therapy.

Treatment

The basic treatment of the patient with meningeal infection includes bed rest, good nursing, general supportive care, and adequate fluid intake. In the specific therapy of meningitis, the following agents are available:

Antisera — meningococcal; pneumococcal; influenzal.

Antitoxin—meningococcal.

Chemotherapeutic agents—sulfanilamide; sulfapyridine; sulfapyrazine; sulfadiazine; sulfamerazine; gantrosan (gantrisin; NU-445; 3, 4 dimethyl-5-sulfanilamido-isoxazole).*

Antibiotics—penicillin; streptomycin; aureomycin; chloromycetin; terramycin.

When the bacterial etiology of meningitis has been established definitely certain therapeutic agents, singly or in combination, have been shown to give good results. Such plans for therapy, however, are subject to newer knowledge acquired as a result of laboratory and clinical experience. Recently, it has been necessary to alter many of our conceptions concerning the therapy of meningitis because of the remarkable advances in the development of new and more efficient therapeutic agents.

In the therapy of meningococcal meningitis, the sulfonamide drugs have been shown to be very valuable. Sulfadiazine, sulfamerazine and gantrosan have been used with considerable success. The dosage of these drugs varies considerably. The average dose for the adult is approximately 5 gms. to 6 gms. stat, given parenterally; the maintenance dose is approximately 1 gm. every four hours. The recommended dose for children varies somewhat from clinic to clinic. However, the following treatment schedule seems to be standard: 0.1 gm. per kilogram body weight, stat, usually given as subcutaneous injection; followed by a maintenance dose of 0.2 gm. per kilogram body weight per twenty-four hours given in divided doses, every four to six hours. No intrathecal therapy is advocated, and the use of antisera and antitoxins is no longer recommended in most clinics.

One of the serious drawbacks in sulfonamide therapy has been renal complications associated with precipitation of the drug in the tubules and pelves of the kidneys and in the ureters. While the measures generally advocated for the prevention of urinary difficulties, such an employment of sulfonamide mixtures, alkalinization and forcing of fluids, are helpful, they do not eliminate entirely the hazards of sulfonamide treatment.

For this reason the introduction of the new soluble chemotherapeutic agent, gantrosan (gantrisin), seems to represent an

*Product of Hoffmann-LaRoche, Inc.

important advance in chemotherapy. The new sulfonamide drug is of comparatively high solubility with no loss in therapeutic efficiency and seems a welcome addition to the physician's armamentarium. Comparative studies have revealed that at pH 6 gantrosan (gantrisin) is soluble to the extent of 350 mg. per 100 cubic centimeters, in contrast to 60 mg. per 100 cubic centimeters, or less for sulfadiazine and sulfamerazine (six times more soluble at pH 6). This striking increase in solubility in relation to pH has been demonstrated further by concentration studies of normal urine:

Gantrosan is soluble to the extent of 60 mg. per 100 c.c. at pH 5.4 and 327 mg. per 100 c.c. at pH 6.14, whereas sulfadiazine is soluble, 12.9 mg. per 100 c.c. at pH 6.3 and 300 mg. per 100 c.c. at pH 7.5 or 8.0. The solubility of sulfadiazine approaches that of gantrosan only after the pH of the urine is raised to 7.5 or 8.

Adequate level of the new drug in the blood is maintained consistently for six hours following administration. The spinal fluid level of gantrosan was found to be about one-third that of the blood level. The greater part of the drug is excreted in the urine within forty-eight hours, the most rapid excretion occurring in the first eight hours.

Gantrosan can be administered by the oral, intravenous, subcutaneous or intramuscular routes. The dosage for children is calculated proportionate to age on the basis of 1 grain per pound of body weight for each twenty-four hour period, one-half of the twenty-four hour dose being given as in the initial dose (total dose of 0.13 gm. per kilogram body weight per twenty-four hours).

While a true evaluation of this new drug in the treatment of meningitis must await further observation, the general clinical results indicate that the new drug is effective in the treatment of a number of infections, and has a therapeutic range comparable with that of sulfadiazine and sulfamerazine. Brickhouse and his associates report excellent results in the treatment of pneumococcal pneumonia, Klebsiella pneumonia, gonococcal meningitis, meningococcal meningitis and infections due to beta hemolytic streptococcus and H. influenzae. Good results were obtained with urinary tract infections due to E. coli, A. aerogenes and Pseudomonas aeruginosa.

Of 142 patients treated, crystalluria was reported in one patient and in another patient, gross hematuria occurred on the second day of intravenous therapy. The hematuria persisted for twelve hours and disappeared in spite of the fact that drug therapy was continued. Svec and his co-workers used gantrosan in the treatment of 300 patients with no evidence of renal damage. Other toxic manifestations reported consisted of dermatitis, drug fever and nausea, none of which presented a serious problem.

On the basis of information available at the present time, gantrosan is a valauble adjunct to our present methods of therapy and has been recommended for use especially where sulfonamide drug is required in a patient in whom renal complications must be avoided.

The diagnosis and treatment of pneumococcal meningitis is of considerable importance since this is one of the more severe forms of meningitic involvement. Penicillin, as well as sulfonamide drugs, is indicated in the treatment of this infection. Recently, Lewis K. Sweet* of Washington, D. C., reported excellent results when massive systematic doses of penicillin were used, as much as one million units every two hours, or twelve million units per day. When this treatment schedule was followed, the case fatality in his series fell from 67 to 37 per cent. More recently, Sweet and his associates have used aureomycin in dosage of 40 mgms. to 50 mgms. per kilogram body weight per day, giving the drug by the intravenous route during the first few days of illness, and orally thereafter. It would appear that the most efficient treatment of pneumococcal meningitis might be a combination of penicillin, sulfa drug and aureomycin. As in other meningitides, intrathecal therapy does not seem to be indicated.

The treatment of meningitis caused by Hemophilus influenzae has been particularly important in the pediatric age group since

*Personal communication.

90 per cent of the cases of influenzal meningitis occurs before the patient is 5 years of age. It is of importance to emphasize the fact that symptoms and signs in these young subjects may be minimal, and that early diagnosis is often extremely difficult, especially if suppressive but not actually effective therapeutic doses of one of the anti-bacterial agents have been given prior to admission to the hospital. Furthermore, the incidence of the disease is greater in young infants and in young children where the prognosis is less favorable, especially if there has been some delay in diagnosis and in the initiation of therapy. Several methods of therapy are now available. Sulfadiazine, given subcutaneously, 0.2 to 0.3 gm. per kilogram body weight, stat; followed by 0.1 to 0.2 gm. per kilogram body weight every twenty-four hours. Alexander's Type B anti-influenzal rabbit serum, 75 mgms. to 100 mgms. in 125 c.c. of normal saline, intravenously, within a period of two hours; streptomycin, 1 gm. per twenty-four hours given in eight divided doses for a period of five to seven days; intrathecal therapy with streptomycin, 25 mgms. to 100 mgms. in 5 c.c. to 10 c.c. of sterile distilled water every twenty-four hours; aureomycin, 10 mgms. per kilogram body weight per day, intravenously, for six days, then 50 mgms. per kilogram per day, orally, for two weeks (Chandler and Hodes); chloromycetin, 100 mgms. to 200 mgms. per kilogram body weight per day by gavage using polyethylene tube. Successful treatment by the use of chloromycetin has been reported from several clinics. In our clinic, Carabelle, Mitchell and Salmon reported success in several cases treated with oral cholomycetin only.

From a practical viewpoint it is important to point out that exact bacteriologic diagnosis cannot be made immediately in all cases. It is necessary, therefore, to have some plan of broad treatment coverage for the patient with meningitis. The following treatment is suggested as providing adequate coverage until exact bacteriologic diagnosis has been made. Once the nature of the bacterial agent is known, treatment can be altered accordingly.

1. The use of one of the sulfonamide drugs seem highly advisable. Of all the drugs available, probably sulfadiazine can be considered the one of greatest value for general use. With the introduction of gantrosan, this soluble sulfonamide may be used to advantage. In general the dosage of gantrosan is 0.1 gm. per kilogram body weight, parenterally, usually given by subcutaneous route at time of admission; followed by 0.2 gm. per kilogram body weight per day using parenteral route until drug can be taken orally.

2. Penicillin—this antibiotic should be given in large doses even, as suggested by Sweet, up to 12 million units per day.

3. Chloromycetin, 100 mgms. to 200 mgms. per kilogram body weight per twenty-four hours, may be given by gavage, using the polyethylene tube, until the drug is tolerated orally by the patient. In addition to such specific therapy, it is necessary that the patient have adequate general supportive therapy with emphasis on adequate fluid intake, and efficient nursing care.

In general, success in the treatment of meningitis depends to a large extent on prompt diagnosis, initiation of adequate treatment early in the course of the disease, and careful and well-planned general supportive therapy. It is essential to continue specific therapy for a sufficient time to prevent recurrence of the infection and to avoid the development of a low grade meningeal infection. The younger the patient with meningitis, the more serious is the prognosis, and it is somewhat disturbing to contemplate that perhaps with improved methods of treatment, we may save more patients, and may have a number of them impaired mentally. The recent studies on accumulation of subdural fluid in patients with meningitis must be evaluated carefully. Subdural taps seem to be indicated in patients who do not respond satisfactorily in the expected manner.

WELL CHILD SUPERVISION*

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For many years in this country children stricken with chronic disease have benefited directly or indirectly from the activities of such voluntary health agencies as the National Tuberculosis Association, the National Foundation for Infantile Paralysis, the National Society for Crippled Children and Adults and the American Heart Association. Physicians, nurses, and parents have experienced the support which such organizations can contribute to the medical care of children. However, the announcement of a National Society for Well Child Supervision would probbaly come as a distinct surprise to most doctors, whether they may be practicing physicians, teachers in medical schools, or health officers. Yet few physicians would deny that well child supervision is a form of medical care which every child needs and deserves. It would be difficult to estimate the actual number of children who are in need of such care today. In the recent study "Child Health Services and Pediatric Education," sponsored by the American Academy of Pediatrics, it was found that 75 per cent of all the medical care of children was supplied by general practitioners. Since most of them receive little specialized training in children's diseases, one may question the adequacy of well child supervision. Furthermore, the number of well children seen each day by the average doctor was only one-third the number of sick children seen, while pediatricians reported seeing more well children than sick children per day.

Can one justify more interest in or emphasis on the area of well child supervision in the vast field of medical care? The affirmative declaration of pediatricians might be considered as "ax-grinding" for their particular specialty. However, authorities in nutrition, infectious disease, public health, psychiatry, orthopedics, ophthalmology and oncology agree that periodic medical supervision through infancy and early childhood is so important for the prevention or early detection of disease.

Though most physicians understand what the term well child supervision implies, the following brief description of its technic and benefits may serve to emphasize its significance. An ideal plan for supervision of the well child consists of medical examinations by his own physician, with his mother present, at scheduled intervals from birth through adolescence. The number of visits should be suited to the needs of a particular child or parent, but as a rough minimum there should be six during the first year of life, half that many during the second and two for each succeeding year until school age.

What are the benefits which the child receives under such a regime? In early infancy, when minor deviations from optimum nutrition may quickly become critical, he profits by the doctor's attention to his individual dietary requirements. The record of his weight is reinforced by personal observations of his actual appearance and by the mother's story of his eating habits, possible food idiosyncrasies and the vitamin supplements which she is giving. About the age of three months he receives prophylatic immunization for pertussis, diphtheria, and tetanus, followed shortly by vaccination against smallpox. By the time these are completed he is rapidly developing, not only in size, but in muscle power, coordination, and personal-social adaptation to the family. His doctor can only get a true picture of this new individual by seeing him frequently when he is not desperately or even mildly ill. Most physicians can remember seeing a child for the first time when quite sick and wishing that they knew something of how the child appeared and acted when in good health. As he grows, the rate and pattern of development for a child become much more obvious and defects of the nervous system, the musculo-skeletal, the hemopoetic and

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the genito-urinary systems may be detected and treated before serious harm results. As examples of the above, strabismus, congenital dislocation of the hip, nutritional anemia and a Wilm's embryoma of the kidney may be cited. These can exist unrecognized for some time if the child does not receive thorough periodic medical examinations. Early treatment is known to be effective for each of these conditions. Delayed treatment is often unsatisfactory.

One other important benefit which the child should receive from these routine visits to his physician is proper child guidance or mental hygiene. This is something which also benefits his mother. Though it is difficult to discuss this in a comprehensive manner, items of counsel regarding eating, toilet and sleeping habits may serve as illustrations. These may seem trivial to the doctor, but are so important to the mother and her child. Psychiatrists are placing more emphasis on the idea that maladjustment to the little problems of early life (such as eating, defecating, and learning to live with the other members of the family) may contribute to many of the neuroses and psychoses of adult life. On this basis one can believe that proper child guidance, supplied by the family doctor at periodic intervals during the first two years of life, may be just as important as diphtheria toxoid in preventing disease. It can also be very effective in relieving a mother's anxiety, particularly about a first-born child.

Why don't more children get this type of well child supervision today? The following are possibly the most important reasons:

1. The physician's lack of time. No one can blame a busy doctor for rationing his time so that the severely ill patient (be it child or adult, medical or surgical case) is not slighted because of time spent in the routine examination of some baby passing through the "crisis" of teething or constipation.

2. The physician's failure to understand the full importance of this type of medical service. Pediatricians usually have this understanding because they should have been "brought up on it" in their specialized training. Such cannot be said for the average physician, even if he was graduated from a class A medical school.

3. The parent's failure to appreciate the need for well child supervision. Like the physician the average parent of today is repeatedly forced to compromise, harassed by the lack of resources and time for doing all he promised himself to accomplish for his family. In this circumstance the importance of having a doctor make sure that Junior is as well as he appears to be is apt to receive minimal consideration.

It may seem strange to some that the familiar "lack of funds" is not listed as the fourth cause of this predicament. The factor of expense is so much an integral part of each of the above reasons that separate mention of it seems superfluous. It is the enormous cost of medical education, in terms of both time and money, which prevents liberal expansion of curricula to include special emphasis on such subjects as child growth and development, well child supervision and school health. Again, if the average physician could employ a number of nurses, secretaries and chauffeurs, he could squeeze hours out of his busy day for chatting with an over-anxious parent. Likewise if there were no bottom to the bank account, most parents would gladly pay for the full value of well child supervision.

These thoughts have been expressed previously in one form or another, and certain groups have taken intelligent and courageous steps to work out some answers to this medical care problem of children. The recent survey of child health services, in which the American Academy of Pediatrics had the cooperation of many agencies, represents a striking example of an attempt to give an adequate picture of the problem.

The almost continual evolution of more comprehensive curricula in medical and nursing schools has not only attempted to give the student better understanding of the over-all picture of medical care, but in recent years has tried to keep him abreast of the latest thinking through short, formal courses of postgraduate education

and training. The University of Colorado Medical School recently offered practicing physicians a two-day course entitled "Supervision of the Well Child." The small registration did not justify repeating it as such, but its contents have been included in a postgraduate course on the care of premature infants. The excellent studies in the field of child development carried on by the Child Research Council are a constant stimulus for this type of education in Colorado. Many medical schools in other states have developed similar courses to give the average physician a better understanding of child care. A more practical method of teaching well child supervision is found in the well baby clinics of university hospitals. Here the medical student or intern works under the supervision of qualified pediatricians supplying this type of medical care to the indigent of the community.

The U. S. Children's Bureau deserves high praise for early realization of the importance of well child supervision for all children. As a federal agency its staff has helped the various states supply this medical care by (a) offering them guidance, (b) developing appropriate standards for the facilities and personnel involved, and (c) giving sizable grants-in-aid, through the Maternal and Child Health Section of State Health Departments, to help carry out the program.

Full credit should also be given to the numerous health educators throughout the country, whether they be designated as such or are simply untitled heroes, like the doctor, the public health nurse, school nurse or school teacher, who literally go about from house to house "preaching the gospel." These people are gradually getting parents to understand the importance of this phase of preventive medicine.

One might be tempted to assume that all these activities would soon effect a satisfactory solution to the problem. This is actually happening for certain groups of children—the small group who happen to have economically secure parents living in cities where pediatricians practice, and the equally small group of indigents who are fortunate enough to receive care at the well baby clinics of university or municipal hospitals. The very large group remaining is not likely to profit from the best efforts in educating doctors and parents until ways for providing this type of care have been satisfactorily worked out.

What plans have been used to provide well child supervision?

1. The typical American system based on personal liberty, personal responsibility, and the encouragement of individual initiative. This plan could be heartily endorsed provided the individual involved were not a young child. One has little sympathy for the adult who prefers to spend his money on a television set rather than for good medical care, but what voice has the child in planning the family budget? Probably there are few public health workers or physicians who have not sometimes found themselves wishing for a "health truant" officer who could compel parents to seek the medical care their children needed. None but starry-eyed dreamers can believe that all the children of this country would get adequate medical care under this system.

2. The above plus tax-supported clinics for the medically indigent is the plan which exists in most cities (and larger towns) today. Two great objections to it are the difficulty of widespread application of a fair, accurate means test and the stigma attached. It is left to each reader to decide whether even half of the children in his own community are receiving the desired benefits under this plan.

3. Realizing the incomplete coverage furnished by the above plans, the U. S. Children's Bureau sponsored a program for having well child supervision given in special clinics called "Well Child Conferences." Though this plan may be familiar to many, a brief description of it follows. The conference is held in almost any type of community center according to a pre-arranged schedule, and is staffed by the physicians of that community who have special interest or experience in child health. Usually the doctors serve in rotation at this conference with a three-six month period for each.

They are assisted by the local public health nurse who has preferably had special training in the field of maternal and child care. She in turn organizes a crew of volunteer workers to weigh the babies, keep records and perform other routine tasks so that the nurse can be free to talk to each parent before and after the physician's examination of the child. She thus acts as an interpreter for the doctor and saves him sufficient time to give a good physical examination, health counsel, and the required immunization to many children in a single morning. Infrequently a specialist in nutrition or health education or a medical social worker may attend the conference to offer helpful suggestions and give actual service. Since this is a tax-supported program, there is no charge to any parent who may bring her child to the conference. The physician serving the clinic is usually paid a fixed fee ($5.00/hr. and 7 cents/mile for travel in Colorado) by the State Health Department. It is understood that any illness or defect found at such a conference is referred to the family doctor for treatment. Welfare cases receive such treatment at appropriate clinics or from special doctors.

When this plan works properly, it has the following advantages: (a) it furnishes a comprehensive type of supervision which few physicians, under the pressure of busy practice, can give to private, office patients; (b) a means test is not used and hence there is no need for a large staff of social workers and clerks to make financial interviews and keep records; (c) any possible economic barrier to adequate well child supervision is eliminated.

Though the well child conference has been quite successful in some parts of Colorado,* there are certain serious objections to this plan. First it tends to break the important continuity of medical care for most of the children attending the well child conference. If Willie, a 6-month-old infant who has been well since birth, is repeatedly seen by Dr. Jones at such a conference, the obvious man to call the night Willie develops a sudden high fever and convulsion is the same Dr. Jones. Under this plan, however, the parents are supposed to call the family physician, Dr. Smith. Even with unusual physician cooperation Dr. Smith cannot be expected to know much about the physical or personality characteristics of this baby, though the parents may produce a good record of the immunization and formula changes given at the conference. Likewise, Dr. Brown, who has the next period of staffing this well child conference, must learn from the parents or the nurse just what type of illness Willie had that particular night. Good pediatric care is based on having the same doctor give the well child supervision and the medical care for any illness the child has. A second objection to this plan is raised by physicians who have tried to cooperate in making it work. They report seeing too many of their own private patients at the conference; sometimes the children of fairly well-to-do parents. No Colorado physician has complained about the meager salary of $5.00/hr. for doing well child conference work, but for each of them it represents some sacrifice (which the State Health Department tries to publicize in the community). One could scarcely blame such a physician for not wishing to make his contribution for the benefit of people who not only could afford to pay for medical care, but who might have otherwise gone to him as private patients for this very service. Only the man with no interest in pediatric practice would be pleased with this feature and obviously he would have no business staffing a well child conference. An answer frequently made, in reply to the doctors' expressions of concern, is that the child does not receive medical treatment in the conference, but is referred to the family doctor for this. To anyone who has taught pediatrics and emphasized the importance of well child supervision in preventive medicine, this answer seems ridiculous. In fact, it is almost dishonest thinking to pretend that a doctor's careful formula adjust-

*Colorado's Experience (exclusive of Denver County) for 1948:

Number of Well Child Conferences	784
Number of centers used	56
Number of counties	13
Number of physicians serving	85
Number of children attending	3,290
Total number of visits	9,636

ment or a helpful hint about vitamins is not just as important medical care as the lancing of a boil or the prescribing of insulin. Though much credit is due to the Children's Bureau for trying to solve a difficult problem in a comprehensive way, two years' experience as Pediatric Consultant to the Colorado State Health Department has convinced the writer that the well child conference will have to be modified before physicians and medical societies can be expected to give full cooperation to this plan for well child supervision.

As possible changes the following suggestions are offered, with the hesitation due to lack of specific experience. The conference might be organized as a nursing conference, available to all mothers in the community, to supplement the well child supervision obtained from the family or welfare doctor. The public health nurse in charge of the conference would maintain a sufficiently close working relationship with the doctors in the community to encourage their referrals and to be sure that her guidance would reinforce rather than conflict with the family physician's ideas of good child care. This might solve the problem of finding more time for a type of well child supervision without necessarily taking the busy doctor away from very ill patients. The other suggestion is to set up standards of financial eligibility and limit attendance at the well child conference to medically indigent families. This would raise an economic barrier and would not remedy the discontinuity of medical care mentioned previously, but it probably would win the support of the physicians. This conclusion is supported by the fact that the Colorado State Health Department's Crippled Children's Program, which uses a means test for supplying medical care, has received such sincere cooperation from the doctors all over the state. A public health program can only materialize to the extent that the local physicians will cooperate in its execution.

4. A fourth plan for obtaining adequate well child supervision, particularly for the large group of middle class families, has been used in several parts of the country. In principle it is much like the voluntary prepaid insurance plan, whether the name be Blue Shield or that of some cooperative group. The well child supervision is given by the child's own physician at scheduled intervals, and payment is made according to a fixed-rate contract between the parents and the doctor. In certain cities pediatricians use this plan for periodic supervision during the first year of life. Usually it includes a specified number of office visits and a reasonable number of phone calls.

Where this type of plan has been in effect the statement has been made that the doctor's life can be made positively miserable by a few over-anxious parents who call him every hour on the hour for the entire first year of the baby's life. A little time devoted to health education can correct this trouble. It is just as much the physician's responsibility to develop a feeling of security and capability in the parent as it is to build a sturdy character in the child. Some doctors have themselves to thank for the parent who imposes on their time for unnecessary professional attention. A more serious objection to this plan is that the doctor in a small community might not have sufficient time to take care of a busy practice. One possible way to handle this problem would be to lower the flat-rate charge and have both the parents and the public health nurse understand that minor problems might be referred to the nurse for ironing out (i.e., in a well child nursing conference as previously mentioned). Physicians with busy practices have often failed to realize how valuable an assistant the public health nurse can be. She receives postgraduate education from time to time, much in the same way a physician does, to keep her properly informed and trained.

Conclusion

The medical problem of providing adequate well child supervision for all the nation's children is far from solved. Its solution rests on a more thorough understanding of the importance of this type of care by physicians and parents, and on the development of some plan (or combination of plans) for supplying this medical service

in a manner attractive to the doctor and parents and adequate for the child. At present none of the plans discussed accomplishes this. It is not anticipated that this discourse will result in any brilliant discovery of the perfect plan, but it may stimulate the thoughtful physician or public health officer to realize that this problem is not only as important but vastly larger than those posed by rheumatic heart disease and poliomyelitis. The field of school health comes close to it in size of group involved, but actually school health is only a part of well child supervision in its broad sense. It is common knowledge that much of the work in school health is detecting and making arrangements for the correction of defects which should have been prevented or at least found early in childhood. The American Medical Association is to be commended for its leadership in the development of sound school health policies and programs, but this interest and activity seem analogous to working on the third floor of the building of a child's life before the first (infancy) and the second (preschool period) are solidly constructed. The basement of said building will doubtless be claimed by the obstetricians.

The entire field of well child supervision should receive more consideration from the medical profession, so that the doctors can give leadership to a community, or an organization such as the American Legion, interested in improving the health of their children. They may also be called upon to guide industrial organizations and labor unions who are planning to include dependents in the medical care programs established for their workers.

PUTTING THE ART BACK INTO MEDICINE

C. PARDUE BUNCH, M.D.
ARTESIA, NEW MEXICO

Almost all of us at some time have watched some "old family doctor" at the bedside plying the "art of medicine" in such a way that we could see the patient brighten up, show renewed confidence and actually seem to start getting well under the beneficent influence of this experienced practitioner. For those who have witnessed this type of "miracle" the above description will recall it to mind—but that fine quality of the art of medicine is so elusive as to defy analysis in terms to which we "scientific" modern practitioners of medicine are accustomed.

What Is the Art of Medicine?

Because the elements that go to make up the art of medicine are so intangible and difficult to classify, a few examples will help illustrate the way in which the art, as contrasted to the science, of medicine functions in specific circumstances in the same way one might explain electricity by showing how it lights a bulb or turns a motor yet would be unable to show anyone electricity as an entity.

The art of medicine enables the physician to advise a young couple as they come to him the day before their marriage. A keen power of observation, tact, sympathy, understanding, a sense of humor, as well as a scientific knowledge of anatomy, physiology, and gynecology, are required to enable the physician adequately to advise his young patients. Underlying this ability is the physician's own family and cultural background, training in sociology, psychology, religion, economics, his own home life and his philosophy of life.

Let us picture a physician at the bedside of the father of four who has had a coronary thrombosis. Is the scientific evidence provided by the electrocardiograph, the x-ray and the laboratory all that is needed? If so, why not let the technicians who use these gadgets write out their reports and hand them over to the patient? Knowledge of the patient, his family, his economic circumstances and other intangible factors available to one who is truly the family physician makes it possible for the person whom the cardiologist, roent-

genologist, and pathologist may refer to as "only a GP" to do a superior job of preparing this patient to face life again with newly imposed limitations.

The art of medicine is that strong shield that protects the physician from defeat when faced with such problems as are presented by the unmarried high school girl seeking some desperate escape from pregnancy, the war veteran who can't overcome his nightmares of battle horrors, the faithful mother driven to distraction by a shiftless drunken husband, the hopeless cancer-ridden grandfather, and that whole field of patients suffering from psychoneuroses of one kind or another who need someone to understand them and to satisfy them that there is nothing organically wrong.

How Can One Acquire This Art?

Talking about the need for putting the art back into medicine is somewhat comparable to "everybody talking about the weather but nobody doing anything about it." An attempt will be made here to point out some deficiencies in our present training program for physicians that account, in part, for the apparent low ebb to which the art of medicine has fallen. This present-day tendency to put scientific method so far above all other factors in preparation of students is not confined to medicine. The ministry, the teaching and legal professions are all emphasizing the purely scientific or intellectual aspects of their training programs, and, like medicine, are tending more and more to specialization within their professions. In large cities one finds more expert "corporation" or "criminal" or "insurance" lawyers, ministers who are highly trained in pulpit oratory or organized social service, technical teachers in school systems who can train our children to type or run a lathe. On the other hand, we find fewer attorneys who can serve as legal advisors and counsellors for the family in all its problems of civil or domestic nature, fewer pastors who visit in the home regularly and nurture the spiritual lives of the family in an age groping for God as never before, and fewer teachers serving as intellectual models, guides, and counsellors for our children.

The fact that other professions are falling down in producing well-rounded, emotionally adjusted, generously motivated men—men who are MEN as well as highly trained technicians—throws a greater social responsibility on the medical profession to produce better-balanced personalities who can recognize a broken heart as readily as mitral stenosis, who can advise Junior about choosing a lifework as well as a leg brace, who can treat hysterical aphasia as well as laryngitis.

The foundation of the art of medicine lies in motivation. One can no more expect the youth, who plans to be a doctor so he can become wealthy and acquire a high social position, to have an advanced degree of the art of medicine than one would expect a "gold-digger" to make an ideal mother for a wealthy widower's children. There must be a large element of altruism, a desire to be of service to people who need him, along with a well-grounded spiritual philosophy of life—not necessarily orthodox—to sustain the medical student, intern and young doctor as he pursues the long, strenuous preparation required.

Broad Pre-Medical Training

At the pre-medical level there is an alarming tendency at present to deemphasize all college courses except the physical sciences. This makes it possible for the young doctor to get through his training sooner and save money, but the saving is hardly justified when one considers what is omitted in order to rush to medical school at nineteen or twenty years of age.

If the high school provided the prospective doctor with all he needed to know of English grammar and composition, public-speaking, history, government, sociology, psychology and philosophy we might grant that two years of college devoted purely to the physical sciences would be adequate. However, the average high school graduate is not able to write or speak as skilfully as a physician should. Knowledge of economics and religion, in addition to the subjects mentioned above, helps lay the

groundwork for the art of medicine, the development of the well-rounded man. Mention has not been made of the value of extra-curricular activities offered during four college years (and rarely available during medical school years) in providing social adaptability, community cooperation, team spirit, and opportunities for advancement in appreciation of music, drama and other arts.

Art and Science in Medical School

Aptitude tests have proved helpful in pointing out the weak points of the first year medical student, and small counsellor or preceptor groups during the first year can aid in correcting these weaknesses and bringing to the attention of the new student the values of a well-balanced intellectual, emotional and cultural "program for life" during student and intern days. Sir William Osler's writings are still preeminent in pointing the way to becoming a skilful practitioner of the art of medicine. Osler's writings along with those of Hippocrates and other "greats" in the honored history of medicine will help to stir in the young student the ideals and the ambition to be a "healer of men"—not just a robot of science. Emphasis on ethics and medical economics and encouragement of the student to maintain some regular form of public or private worship will aid in the production of better family physicians and specialists who are able to see the whole patient—not just an interesting disease.

More and more medical schools are bringing in family physicians either as regular faculty members or as visiting speakers to acquaint medical students with the type of practice a general practitioner faces when he leaves his internship. Encouragement of this tendency will serve to interest more men in doing general practice in small towns and will also make it possible for those who become specialists to understand better the meaning of that well-worn phrase, a "good bedside manner." In this way it is possible for the medical student to see the science of hematology, biochemistry, physiology, combined skilfully with the art of medical practice to make it possible for the devoted family physician to work "miracles" that the most skilled technician in the field of surgery or pharmacology would have declared impossible.

Are Hospital Internships Adequate?

It is questionable if either the best two year rotating internship or the highly praised plan of one year medicine, one year divided between pediatrics and obstetrics, will fully train in the art of medicine. Some system permitting an additional three to twelve months' preceptorship under a successful general practitioner probably gives more well-rounded, practical training in the art as well as the science of medicine than any system of training possible under hospital conditions. Those who contend that all medical school graduates should be required to spend from one to three years in general practice before specialty training recognize that such background would enable the specialist to view the patient as a whole and prevent many needless operations performed because of a fine technical surgeon's lack of knowledge of the broad field of medicine and humanity.

Art and Science Are Inseparable

The satisfactions that come to the family physician with a good scientific training, who has mastered the art of medicine, cannot be surpassed by the greatest fame or wealth that may come to more highly specialized colleagues. He who can sense the family's concern over a serious prolonged illness and arrange consultation before the family requests it; he who can recognize the paralyzed arm of a distraught young mother for what it is—a hysterical manifestation—and properly get at the root of the trouble; he who can hold the sick child's confidence to such an extent that the stomachache leaves when the doctor walks in the door; he who can pray with the bereaved husband when all hope for the wife and mother is gone; he who can put himself in the place of his patients to such an extent that they realize he shares their pain and sorrows, making him the same as "one of the family"—he is our ideal family physician, practicing both the ART and the SCIENCE of medicine.

Case Reports

AGENESIS OF THE MYENTERIC PLEXUS*

ARTHUR S. BEATTIE, M.D., and EUGENE HILDEBRAND, M.D.
GREAT FALLS, MONTANA

The recently renewed interest in the etiology and treatment of Hirschsprung's disease has prompted the reporting of the following case.

CASE REPORT

This male infant was the first-born of a 22-year-old woman after thirty-nine weeks gestation. The delivery was uneventful and the condition of the baby at birth was good. It was noted that the child had no bowel movements. On the third day of life a scout film of the abdomen showed marked dilatation of the small bowel. An umbrathor enema showed what was reported as a normal colon and rectum. The diagnosis of atresia of a segment of small bowel was made and an exploratory laporotomy was done on the fourth hospital day. The only abnormality seen at the time of surgery was a dilated segment of small bowel, approximately 30 cm. from the ileocecal junction. This segment of bowel was 12 cm. in length by 2.5 cm. in diameter. Proximal to this area the small bowel was only slightly dilated. It was thought that the preoperative decompression could account for the decrease in size of the more proximal portion of small bowel. No obstruction was found. The abdomen was closed.

Despite supportive care the baby's condition became worse. There were no bowel movements. The diagnosis of "atypical nerve supply of the distal portion of the small bowel" was made. On the eighth hospital day an anastomosis was made between the ileum and transverse colon. The baby had no bowel movements and became distended postoperatively. Death occurred on the fourteenth hospital day.

Pertinent Autopsy Findings: A side-to-side anastomosis between the midportion of the transverse colon and small bowel 123 cm. from the ligament of Treitz is noted. The anastomotic opening measures 1.5 cm. in diameter. There had been no apparent leakage. The small bowel immediately adjacent to the anastomosis is dilated to approximately 3 cm. in diameter for a distance of 10 cm.; it, then, gradually narrows to a diameter of 0.6 cm. The cecum measures 1.5 cm. in diameter. The colon averages 1 cm. in diameter.

Multiple sections of the intestines are made at various levels throughout the tract. No ganglion cells are seen in the myenteric plexus of the colon although large nerve trunks are present; see Fig. 1. Ganglion cells are present in normal numbers in all of the sections of small bowel studied. Fig. 2 is a representative segment taken from the colon of one of eight newborn infants that died from unrelated causes. Ganglion cells are present in abundance in all sections taken from various levels of the gut in all of these cases.

*From the Department of Pathology, Montana Deaconess Hospital, Great Falls, Montana.

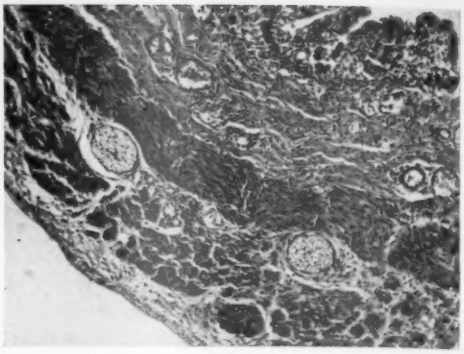

Fig. 1. Showing no ganglion cells in the myenteric plexus, though large nerve trunks are present.

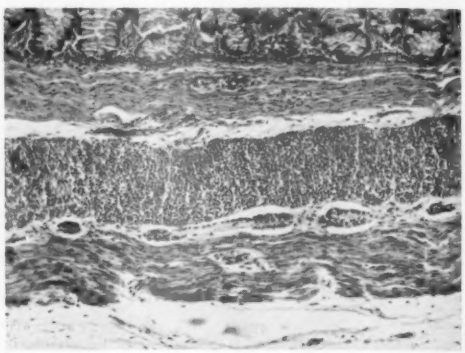

Fig. 2. Segment of normal colon showing abundant ganglion cells.

Discussion

The case presented probably is representative of Hirschsprung's disease due to agenesis of a portion of the myenteric plexus.

"Congenital megacolon" was recognized as a clinical entity many years before Hirschsprung reported the clinical history and autopsy findings of two patients with megacolon. Subsequently, many papers have been written on the etiology and treatment of megacolon. Tiffin, Chandler, and Faber reviewed the literature in 1940.

Some of the theories as to the etiology include: 1. The disease is due to congenital lesions in the dilated segment of bowel and the dilatation and hyperthrophy of congenital. 2. Mechanical obstructions on the basis of an elongated and looped colon result in the dilatation and hypertrophy. 3. Infection which results in chronic colitis is the beginning pathologic change. 4. Some type

of deficiency to the nerve supply to the bowel.

Among the proponents of the fourth theory is Fenwich who believes that spasm of the anal spincter results in the dilatation and hypertrophy of the colon. Wade and Royle believe the underlying pathology to be an overactive sympathetic nervous system and performed lumbar sympathectomies to obviate the overstimulation. Scott and Morton showed that spinal anesthesia would produce evacuation of the colon in these patients. Martin and Burden believe the basic pathology to be due to derangement of the intrinsic nerve supply. Hawkins postulated that a neuromuscular deficiency exists in one segment of the colon and intestinal contents find difficulty in passing this segment. Fraser also believes that the primary pathology occurs in the involuntary nervous system. Tiffan, Chandler, and Faber suggest that absence of the myenteric plexus is the basic pathology. Swenson, Rheinlander, and Diamond, in correlating the distribution of ganglion cells with motility studies, suggest that the absence of the perstaltic wave progression may be due to absence of abnormal distribution of the myenteric plexus in a segment of the intestine. Zuezler and Wilson reported eleven cases and came to the conclusion that the functional disturbance in intestinal motility in these cases is related to the congenital absence of nerve cells in the enteric nervous system.

In the case presented the clinician, believing the pathology to be in the dilated segment of small bowel, did a by-passing operation. This did not relieve the obstruction. We believe that whenever the clinical picture of acute, recurrent, or chronic intestinal obstruction is presented and no mechanical cause for the obstruction can be demonstrated, congenital absence of all or part of the myenteric plexus should be suspected. Temporary relief, even during acute obstructive episodes, may be obtained from conservative measures. However, surgical exploration is indicated in most of these cases. Swenson, Neuhauser, and Pickett, by surgical resection of the involved segment of bowel, secured a cure in thirty-three of thirty-four patients, with only one postoperative death. They describe in detail the x-ray technic used to demonstrate the lesion and the technic of a modified "pull-through endorectal anastomosis," in the August, 1949, issue of Pediatrics.

Summary

1. A case of "agenesis of the myenteric plexus" of the colon is presented.

2. A partial review of the literature is given with emphasis being placed on the more recent investigative work supporting the hypothesis that the pathology lies in the nerve supply of the bowel distal to the dilated and hypertrophied portion.

LYMPHANGIOMA INVOLVING THE SMALL BOWEL

JOHN J. WILD, M.D.
SHERIDAN, WYOMING

This report concerns a 22-year-old white woman who for the past ten years has had repeated attacks of severe anemia. She had been seen by many doctors and been through several clinics with no definite etiology ever being established.

CASE REPORT

Her chief complaints were dyspnea, being weak, and having a craving for flour. She had periods of anemia since the age of 12 years, but had no other complaints. Her past history and family history were not helpful. She could give no history of blood loss but there was some question of periodic dark stools. Because she was previously thought to have a bleeding duodenal ulcer, she neither smoked nor drank alcoholic beverages and had been on a strict ulcer regime the past three years.

Examination on her first visit revealed a well-developed white female obviously pale but in no acute distress. There was no skin discoloration or altered pigmentation. The head, eyes, ears, nose, throat, mouth and neck were normal. The chest, breast, lungs and heart were also normal. The pulse was 84 and blood pressure was 110 over 72. The abdomen had no scars, herniations, masses or tenderness. Her liver, spleen, and kidneys were not palpable. Pelvic examination also was not contributory. Her extremities revealed no signs of bony, skin, neurologic, or lymphatic disease.

Her hemoglobin was 50 per cent with 3,000,000 red blood cells, and 9,000 white blood cells and a normal differential. The smear showed a microcytic hypochromic anemia with an average number of platelets present.

She responded rapidly to oral iron and liver injections on this admission but after her second hemorrhage hospitalization and transfusion were required. On this admission to the hospital her hemoglobin was 40 per cent. Gastric analysis

revealed a 66 degree free hydrochoric and 78 degree total acid. There was occult blood in her stools. A bone marrow biopsy revealed cells of normal distribution in normal stages of development with a normal myeloid erythroid ratio. It was interpreted as an iron deficiency anemia. Gastrointestinal x-ray series revealed a slight deformity of the duodenal cap.

After discharge from the hospital she had two more episodes of anemia during the second of which surgery for a bleeding duodenal ulcer or possibly a bleeding Meckel's diverticulum was advised At surgery a Meckel's diverticulum eight centimeters in length and two centimeters in diameter was found and removed. This diverticulum did not appear indurated or hemorrhagic and further exploration revealed a hemorrhagic mass five centimeters in diameter on the jejunum about thirty centimeters from the ligament of Treitz An enlarged gland was found adjacent to the tumor in the mesentery about two centimeters in diameter, discrete and of lipomatous consistency.

About 20 centimeters of jejunum was resected including the enlarged gland and an end to end anastomosis of the jejunum was completed. Her postoperative course was uneventful and to September, 1950, five months postoperative, the patient has felt well and her hemoglobin has risen to 90 per cent.

The pathological report read: Meckel's diverticulum; submucosal lymphangioma of jejunum; mesenteric lymphangioma, cavernous type, jejunum.

Discussion

On looking through the literature I found a similar case reported by Pyppel and Morris in December, 1944. Their conclusions were: 1. It is difficult at best to make a preoperative diagnosis. 2. The case presented had findings of anemia and occult blood in the stool. All x-rays, bone marrow and other laboratory work were negative.

Among two series of small bowel tumors compiled at the Mayo Clinic and Johns Hopkins there were eight-five cases of small bowel tumors reported and only one lymphangioma was found at autopsy and was asymptomatic. Other types of tumors they reported were fibromas, myomas, lipomas, argentaffin tumor, aberrant pancreatic rest and hemangiomas.

Conclusions

1. Lymphangioma may be the cause of repeated gastrointestinal bleeding.

2. This condition has not been known to have been diagnosed preoperatively.

3. Other small bowel tumors are usually diagnosed because of obstructive symptoms.

4. Hemangiomas are somewhat more frequent and give a similar clinical picture.

PREGNANCY COMPLICATING FAMILIAL CEREBELLAR ATAXIA RESEMBLING SUBACUTE COMBINED DEGENERATION OF THE SPINAL CORD

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DENVER

Familial or hereditary ataxia is a term applied to a group of closely related disorders usually hereditary or familial and characterized pathologically by degeneration of some or all of the following parts of the nervous system—optic nerves, cerebellum, olives, and the long ascending and descending tracts of the spinal cord. These localized degenerations occur in various combinations with corresponding symptoms. Some forms are confined to a single family and more than one form may occur in a single family. The existence of transitional forms lends support to the view that all varieties are due to the same underlying abnormality which varies in its incidence upon different parts of the nervous system.

Subacute combined degeneration of the spinal cord, also known as postero-lateral sclerosis, is a deficiency disease usually associated with pernicious anemia and characterized pathologically by degeneration of the white matter of the spinal cord in the posterior and lateral columns and of the peripheral nerves, and clinically by paresthesias, sensory loss, especially impairment of deep sensibility, ataxia, and paraplegia. Lichtheim, in 1887, associated these changes with pernicious anemia.

The familial ataxia may resemble subacute combined degeneration in the association of ataxia of the lower limbs with extensor plantar responses and loss of knee and ankle jerks. This group of disorders, however, is distinguished by familial incidence, earlier onset, the presence of nystagmus, and frequently of scoliosis and pes cavus, and a more chronic course.

The following case represents a patient whose symptoms resembled both diseases, and after long and involved neurologic workup, still defied classification.

CASE REPORT

This patient, a 36-year-old para III, gravida IV, with two living children, was first seen in our obstetrical clinic* at 12 to 14 weeks gestation. Her past history revealed that she was perfectly well until six years previously when she suddenly developed weakness in the lower extremities and an inability to maintain her balance. One year before this, her brother, six years her junior, developed the same symptoms. These symptoms became progressively worse and after two years she began to have visual disturbances, difficulty in speaking, and increased salivation. She was seen and followed in two neurologic clinics where a diagnosis of an atypical Friedrich's ataxia or Marie's cerebellar ataxia was made. She was told that there was no therapy for this disease and she received no treatment at any time.

Her obstetrical history revealed that she had two term uneventful pregnancies 14 and 16 years previously, and two years ago a pregnancy, while suffering with this disease, resulted in a premature labor at 34 weeks, precipitate in character, and terminated with a spontaneous delivery at home of a stillborn infant of approximately 1900 grams. The placenta was retained and the patient required hospitalization and manual removal of the placenta. The puerperium was completely normal.

When first seen with her present pregnancy this patient appeared poorly nourished, could not stand without support with or without her eyes closed, and movement of her feet was awkward and uncoordinated. She had dysphasia of the scanning speech type with mild mental dullness and evident euphoria. There was a mild kyphosis. Heart and lungs were negative. Neurologic examination revealed absent knee and ankle jerks and abdominal reflexes. Bladder and sphincter control were present. There was no nystagmus. She had difficulty with finger to nose and toe to knee tests with her eyes closed, which improved somewhat with her eyes open. Joint position sensation was absent in the toes. Vibratory sensation was absent from the toes to, and including, the clavicles. Touch sensation, heat, cold, and pain perception were intact. There was an apparently positive Babinski on the left and the reaction on the right was equivocal. Examination of eyegrounds revealed a small, gray, degenerative lesion closely adjoining the macula of the right eye with a corresponding absolute scotoma just below the macula.

Spinal fluid studies were normal for cell count, protein, and the Wasserman was negative. Sternal marrow studies and gastric analysis were negative. X-rays of the skull and cervical spine were negative.

Since this patient was desirous of continuing her pregnancy and no known neurologic or obstetric indication existed for termination, she was allowed to continue. Her prenatal course progressed uneventfully and she stated that she felt no change in her general condition except for discomforts of pregnancy itself. At 36 weeks she fell into labor spontaneously, and after a two hour labor at home appeared at the hospital ready for delivery. She delivered spontaneously under nitrous oxide-oxygen anesthesia a premature living female child weighing 1729 grams. An adherent placenta necessitated manual removal under nitrous oxide-oxygen-ether anesthesia. Her puerperium was uncomplicated and follow-up neurologic examinations have revealed no changes brought about by the pregnancy or delivery. She refused sterilization. The baby is apparently perfectly normal.

*South Baltimore General Hospital.

Comment

Pregnancy superimposed upon one of the forms of familial ataxia has not been reported. A discussion of differential diagnosis of various forms of hereditary or familial ataxias with the postero-lateral degenerative diseases is hardly warranted here. Suffice it to say that the lack of cerebellar symptoms tended to remove this disease in this patient from the familial ataxias, yet the lack of characteristic changes typical of pernicious anemia, such as achylia gastrica and erythrocyte changes, and the presence of similar degeneration in a sibling tended to throw it back into the cerebellar group.

It is of interest, however, to point out that in two pregnancies that this patient had during the course of her disease, the following occurred:

1. Both pregnancies terminated prematurely at approximately 34 to 36 weeks.

2. The duration of labor was short with minimal pain sensation, but with effective contractions and a spontaneous delivery.

3. There was a retained placenta with each delivery, necessitating a manual removal of the placenta.

4. The puerperium was completely uneventful, and there was no apparent change in the symptoms or progress of the disease.

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1. Brain, Russell: Diseases of the Nervous System, London, 1940, Oxford University Press.

2. Wechsler, I. S.: Textbook of Clinical Neurology, Philadelphia, 1944, W. B. Saunders Company.

It is probable that the time is approaching when screening of the general population for tuberculosis may be combined and coordinated with other screening programs for other important pathologic conditions, such as cardiovascular disease, cancer, syphilis and diabetes—similarly characterized by relatively long subclinical periods in which detection may be life saving or important to community protection.—New England J. Med., Robert B. Kerr, Frank G. Seldon, John D. Spring, November 30, 1950.

Organization

COLORADO
State Medical Society

SUMMER CLINICS AT CHILDREN'S HOSPITAL

The Annual Summer Clinics of the Children's Hospital will be held on June 20, 21 and 22, 1951. The guest speakers are: Dr. Alexis F. Hartmann, Pediatrician, Washington University, St. Louis, Missouri; Dr. Herbert E. Coe, Pediatric Surgeon, Children's Hospital, Seattle, Washington; Dr. Douglas N. Buchanan, Pediatric Neurologist, University of Chicago, Chicago, Illinois.

Each guest speaker will conduct a two-hour clinic on one of the three days; give a lecture on a subject of general interest within his field; appear with staff members and guests in panel discussions of pertinent subject matter of common interest and concern to all physicians interested in the care of infants and children. In addition, the guest speakers and staff members will take part in a question-answer period following luncheon on each of the three days. Further information concerning the clinics may be had, and registration for the clinics may be accomplished, by calling or writing to the chairman at the hospital.

A CLINICAL DAY FOR PHYSICIANS INTERESTED IN CHILDREN'S DISEASES

Sponsored by St. Francis Hospital and the University of Colorado School of Medicine

PROGRAM

May 23, 1951, at St. Francis Hospital, Colorado Springs, Colorado

9:00 A.M.—Two Patients Illustrating the Problem of Convulsions in Children With Acute Infections—Maurice Snyder, M.D., Chief of Pediatrics, St. Francis Hospital, Colorado Springs; John Lichty, M.D., Department of Pediatrics, University of Colorado.

10:00 A.M.—Hysteria in Children—Presentation of Two Patients With a Discussion of Therapy —Paul Draper, M.D., Colorado Springs; Robbert Stubblefield, M.D., Department of Psychiatry, University of Colorado.

11:00 A.M.—Diagnosis and Therapy of Malignancy in Childhood—(A) Patient With Lymphosarcoma; (B) Patient with Neuroblastoma —Maurice Snyder, M.D., Colorado Springs; Harold Palmer, M.D., Medical Director, Children's Hospital, Denver.

12:30 P.M.—Luncheon.

1:30 P.M.—Two Patients Illustrating Serious Toxic Reactions to Common Pediatric Drugs —Paul duBois, M.D., Colorado Springs; James Flett, M.D., Department of Pediatrics, University of Colorado.

2:30 P.M.—Bulbar Poliomyelitis in Children—Robert Lawson, M.D., Professor of Pediatrics, Bowman-Gray Medical School, Winston-Salem.

3:30 P.M.—Medical and Surgical Aspects of Therapy in Two Patients With Intestinal Abnormalities—(A) Intussusception; (B) Bleeding From a Meckel's Diverticulum—Harry Gordon, M.D., Professor of Pediatrics, University of Colorado; Henry Swan, M.D., Professor of Surgery, University of Colorado.

Send registrations (no registration fee) to Director, St. Francis Hospital, Colorado Springs, Colorado.

COLORADO STATE BOARD OF MEDICAL EXAMINERS

The following physicians were granted licenses to practice medicine at the regular quarterly meeting of the State Board of Medical Examiners: Franklin Ray Black, M.D., 1317 Texas Ave., Grand Junction, Colo.; Channing Metcalf Bowen, M.D., Colorado Medical Center, Denver, Colo.; George Howard Dolmage, M.D., Mason City, Iowa; Floyde Josephine Field, M.D., Colorado State Hospital, Pueblo, Colo.; Reginald H. Fitz, M.D., U. of Colo. School of Medicine, Denver, Colo.; Robert Silver Galen, M.D., Lt. (jg) MS USNR Naval Air Sta., Pensacola, Fla.; John Horace Githens, Jr., M.D., 2559 S. Franklin St., Denver, Colo.; Crozier S. Hart, M.D., 703½ Colo. Ave., Trinidad, Colo.; Edward Russel Kodet, M.D., St. Mary's Hospital, Waterbury, Conn.; Calvin H. Layland, M.D., 503 Kilpatrick Ave., Cleburne, Tex.; Hilbert Mark, M.D., Denver General Hospital, Denver, Colo.; Vincent Richard Ray, M.D., 141-33 78th Ave., Flushing, L. I., N. Y.; Leroy James Sides, M.D., Colorado State Hospital, Pueblo, Colo.; Warren Higley Walker, M.D., 485 Olive St., Denver, Colo.; James Leo Weiler, M.D., Clear Creek, Utah; John J. Yaeger, M.D., Children's Hospital, Denver, Colo.; Harold Frederick Ziprick, M.D., 1971 E. Glenoaks Blvd., Glendale, Calif.

COLORADO
State Health Department

ELIMINATION OBJECTIVE IN COMMUNITY INSECT AND RODENT CONTROL PROGRAM

Community programs to control rodent and insect populations are far from new, but the present war situation has added some new facets to an old problem. The possibility of biological warfare being used against the United States adds urgency to the matter of controlling any animal vectors that might be used in such a campaign.

The rat, traditional carrier of typhus and plague, has been the object of rat-proofing programs for many years. And for many years, sanitary engineers have been calling for the elimination of breeding places as well as rat-proofing of buildings on the theory that it is better not to have rats around at all than merely to keep them out of certain places.

The nation's defense effort has now made this part of the program more important than ever, for iron and steel necessary in rat-proofing are now in very short supply. This happens at a time when the nation can ill afford either the billions of dollars' worth of crop damage caused annually by rats or the loss of manpower due to illnesses spread by rats.

One of the major breeding places of rats is the open dump, still much too prevalent throughout Colorado, although in the past two years, nearly 30 communities throughout the state have adopted variations of the sanitary land fill, tailored to fit their particular needs. Sanitary land fills are relatively inexpensive and dispose of a community's garbage and refuse in a safe, sanitary manner. No community should fail to investigate the possibilities of this method of rat control.

Sanitary land fills help to control more than rats, however. Flies are another important by-product of open dumps. By denying the adults food and breeding places, the need for other control measures is curtailed, if not eliminated.

Many communities still carry out spraying campaigns against rodents and insects without simultaneously attacking the problem at its source. Such efforts are largely wasted, for while they reduce the rodent and insect population for the time being, they do not prevent regrowth of that population.

The medical profession should assume a large measure of responsibility for stimulating and guiding the community's efforts at insect and rodent control into the most effective channels, both from an economic and health standpoint. The Division of Sanitation, State Department of Public Health, has on its staff an Insect and Rodent Control Specialist, who can give communities help with such problems. He is at their call.

NEW MEXICO Medical Society

STUART W. ADLER HONORED

Dr. Stuart W. Adler of Albuquerque has been named "Top Man of the Year" by the Junior Chamber of Commerce of Albuquerque, New Mexico. Dr. Adler, long active within organizations of the medical profession of Bernalillo County and the state, has more recently been a leader in the mass x-ray projects of the tuberculosis association, the Health Center of the New Mexico Society for Crippled Children, the New Mexico Health Foundation, and the Cerebral Palsy School. Dr. Adler is also an active Rotarian.

Hospital admission chest survey, unlike sporadic or occasionally repeated testing of selective groups of the citizenry of a locality, goes on day by day, year by year, as a part of general operation. The long-range results for such case-finding are bound to be beneficial for the city in which the hospital is located as well as the entire area from which it draws patients.—J. Mich. State M. Society, Fred J. Hodges, M.D., November, 1949.

When the dieter prepares the family fare

By curbing the appetite and elevating the mood, DESOXYN Hydrochloride helps to fortify the patient's resistance to constant temptation. Compared with other sympathomimetic amines, DESOXYN is more potent, weight for weight, so that smaller doses may be used effectively. One 2.5- or 5-mg. tablet before breakfast and another about an hour before lunch are usually sufficient to still the pangs of hunger. With DESOXYN you can expect a low incidence of side-effects plus faster action and longer effect than with other sympathomimetic amines. Try it. Abbott

Prescribe **DESOXYN®** Hydrochloride

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ELIXIR
2.5 mg. per fluidrachm
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20 mg. per cc.

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Abbott's new heat-stable, non-caloric sweetener
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"... OFFERS REAL PROMISE IN P

24 out of 35 pseudomonas strains found sensitive in vitro

"... nearly three-quarters of the strains isolated in these laboratories are sensitive to therapeutic concentrations of terramycin."*

CRYSTALLINE

Terra

Bacterial resistance usually not a problem

"During the treatment of the cases described, no resistant mutants of originally sensitive strains have appeared; particular attention in this respect has been paid to strains of coliform bacilli in urinary infections. In vitro experiments indicate that with some coliform strains a slow step-like resistance can be evoked, but there has so far been no occurrence of any 'streptomycin-like' resistance."*

*Linsell, W. D., and Fletcher, A. P.: British M. J. 2:1190 (Nov. 25) 1950.

Antibiotic Division

Pfizer

IN PSEUDOMONAS INFECTIONS

Promising clinically in urinary infections due to pseudomonas

"Our limited clinical results bear out expectations founded on the in vitro activity of the drug . . ."

"It appears likely that with high dosage, leading to urinary levels of 300-400 mcg./ml. practically all cases infected with Ps. pyocyanea will be amenable to therapy."*

Promising clinically in superficial infections due to pseudomonas

"In addition to our findings with the treatment of Ps. pyocyanea infections of the urinary tract, our preliminary data with regard to superficial infections with this organism show that terramycin offers real promise in controlling pyocyanea infections by local or systemic administration."*

ramycin

HYDROCHLORIDE

The growing clinical literature continues to stress:

1. **The broad-spectrum activity of Terramycin** against organisms in the bacterial and rickettsial as well as several protozoan groups.

2. **The promptness of response to Terramycin** in acute and chronic infections involving a wide range of organs, systems and tissues.

Crystalline Terramycin Hydrochloride is available as:

CAPSULES, 250 mg., bottles of 16 and 100; 100 mg., bottles of 25 and 100; 50 mg., bottles of 25 and 100.

ELIXIR (formerly Terrabon), 1.5 Gm. with 1 fl. oz. of diluent.

INTRAVENOUS, 10 cc. vial, 250 mg.; 20 cc. vial, 500 mg.

OPHTHALMIC OINTMENT, 1 mg. per Gm. ointment; tubes of ⅛ oz.

OPHTHALMIC SOLUTION, 5 cc. dropper-vials, 25 mg. for preparation of topical solutions.

AS. PFIZER & CO., INC., *Brooklyn 6, N. Y.*

UTAH
State Medical Association

Ogden Surgical Program Completed

Committees in charge of the Sixth Annual Meeting of the Ogden Surgical Society announce that their program has been completed. The meeting convenes in Ogden, May 23, 24 and 25, under physical arrangements similar to those of preceding meetings which will be well remembered by all who have attended this famous meeting in the last five years.

The following guest speakers will participate:

Arthur W. Allen, Boston, Consultant in Surgery, Massachusetts General Hospital.

John Z. Bowers, Salt Lake City, Dean of the University of Utah Medical School.

Richard B. Cattell, Boston, Surgeon at Lahey Clinic.

Guy A. Caldwell, New Orleans, Professor of Orthopedic Surgery, Tulane University.

A. R. Colwell, Evanston, Illinois, Professor of Internal Medicine, Northwestern University.

Winchell M. Craig, Rochester, Minn., Professor of Neurosurgery, Mayo Clinic.

Keith S. Grimson, Durham, North Carolina, Professor of Surgery, Duke University.

Charles E. McLennan, San Francisco, Professor of Obstetrics and Gynecology at Stanford University.

Alton Ochsner, New Orleans, Professor of Surgery, Tulane University.

Paul W. Schafer, Merriam, Kansas, Professor of Surgery, University of Kansas.

Edmund B. Spaeth, Philadelphia, Professor of Ophthalmology, University of Pennsylvania.

Gilbert J. Thomas, Beverly Hills, Urologist, Associate Clinical Professor, University of Southern California.

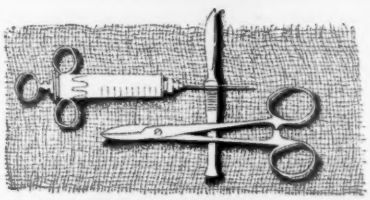
Special entertainment will be provided not only for doctors attending the meeting but for members of their family who will accompany them. Already announced in advance is an informal party the evening of Wednesday, May 23, at the Ogden Golf and Country Club for all doctors, members of their family and others who have registered for the meeting. There will be additional social events each day for the ladies and a banquet the evening of Thursday, May 24.

Hotel reservations should be made well in advance, preferably at once. They may be obtained by addressing W. R. Brown, Chairman of the Registration Committee, First Security Bank Building, Ogden, and Frank K. Bartlett, President of the Ogden Surgical Society, First Security Bank Building, Ogden.

Effective against many bacterial and rickettsial infections, as well as certain protozoal and large viral diseases.

AUREOMYCIN

Hydrochloride Crystalline



The Surgeon is no longer hampered in his work by the fear of uncontrollable postoperative infections, thanks in large measure to the sulfonamides and the antibiotics. Aureomycin is indicated for preparation of the gut before enteric surgery. The high concentrations attained by aureomycin in the bile make it of particular value in operations on the infected biliary tract. Its efficacy against streptococci and staphylococci, which are becoming increasingly resistant to penicillin, renders its use advisable in surgical conditions where these organisms are actual or potential invaders.

Packages

Capsules: Bottles of 25 and 100, 50 mg. each capsule. Bottles of 16 and 100, 250 mg. each capsule.
Ophthalmic: Vials of 25 mg. with dropper; solution prepared by adding 5 cc. distilled water.

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REPORT OF THE AUXILIARY TO THE UTAH STATE MEDICAL ASSOCIATION FOR APRIL

The regular meeting of the Board of the Auxiliary to the Utah State Medical Association was held in the medical offices at 42 South 5th East in Salt Lake City, with the President, Mrs. Orin A. Ogilvie, in the chair. Following the reading of the minutes, the meeting was addressed by Dr. Ray Woolsey, President of the Medical Service Bureau. His topic was "The Voluntary Health Plan." He divided insurance into two classes (1) the Indemnity plan; (2) the Service plan. Indemnity insurance is sold by the big companies, and unless the rates are almost prohibitive, they pay only certain amounts on hospital and doctors' bills. Patients must pay this difference. Some will pay 25 per cent, some 50 per cent, all depending on the premium rate. Many companies are not entirely honest with the insured, failing to call attention to the fact that coverage is not complete. The public wants a service type program, and the doctors must provide this. Service basis program is controlled by the medical profession. Up to date it has been afflicted with "growing pains," but is now becoming of age. It was necessary for the medical profession to take a 50 per cent reduction in fees in order to cope with a bad situation, but gradually these fees are being increased. On March 15, the Blue Shield took over the coverage of the 14,000 families connected with the Geneva Steel Plant, and this will greatly help prestige of the Blue Shield in the State of Utah. In the fight against government medicine, Utah's medical profession, with the aid of the various Auxiliaries in the state, is to be congratulated.

Reports were given by all committee chairmen and county presidents. Mrs. N. F. Hicken of the Benevolent Fund said that $100 was given to a needy senior medical student. Very interesting, indeed, was a report given by Mrs. W. R. Middlemiss, chairman of the Legislative Committee. She said, in part, that the doctors' wives on the Health Committee of the Women's Legislative Council decided to concentrate on a proposed bill to enable the Utah State Hospital at Provo to realize a new building for medical and surgical treatment of the patients there, plus improvements necessary in the present buildings. Members of the Legislative Committee of the Auxiliary were in constant attendance at all regular meetings of the Legislative Council, as well as many extra sessions. Hours of lobbying were necessary to insure passage of this bill. The doctors' wives also began a campaign of re-education of the people of Utah as to the meaning of mental illness, and the necessity for adequate treatment, in order to return patients to a normal, happy life.

Among subjects studied by the Council were: school programs; legislation in handling of sex offenders; taxation; repeal of the Utah Lien Law; changes in methods of commitment of patients to the Mental Hospital; public welfare, and civil defense.

The Auxiliary to the Utah State Medical Association can well be proud of the fine work of this committee throughout the entire legislative year.

The various county presidents reported on their recent activities, which included polio drives, cancer campaigns, assistance given boards of health in immunization, funds raised for the

establishment of a sound system for the State Mental Hospital in Provo, nurse recruitment drive, and the promotion of Hygeia, now known as Today's Health. Never to be lost from sight in all the Auxiliaries is the promotions of public relations—better feeling between the doctors who serve the sick and the American public, who must have medical care.

MRS. CLAUDE L. SHIELDS,
Publicity Chairman.

UTAH
Medical School Notes

Negotiations are now under way with the Atomic Energy Commission for construction of radio-biology laboratories in the new medical center, costing approximately $100,000. A diversified program of research on the effects of radiation as it is of particular concern to the AEC will be carried out in these laboratories.

Considerable national interest has been aroused by the widespread publicity given research accomplishments in the poliomyelitis research laboratories at this institution. These laboratories have carried on a broad program of testing virulence of various strains of poliomyelitis virus obtained from outbreaks in many countries. More recently its activities have been focused toward understanding the biochemical factors in related cells which accompany invasion of poliomyelitis viruses with the idea of determining which biochemical factors sensitize or protect cells against infection. These studies are being subsidized by a grant from the Public Health Service.

Dr. Mark Nickerson is leaving the research faculty of this medical college to assume an appointment as Associate Professor of Pharmacology at the University of Michigan.

A research grant in the amount of $19,500 has been awarded by the U. S. Public Health Service for studies on the potential carcinogenicity of the dusts encountered in the uranium mines and processing plants of this region.

Dr. H. L. Marshall, formerly Professor of Public Health and Preventive Medicine, and Acting Dean until the arrival of Dean Bowers last fall, has been appointed Medical Director for the Trust Territory, Islands of the Pacific, with headquarters in Hawaii.

Tuberculosis has so far been habitually considered to be a manifestation of social misery, and it has been hoped that an improvement in the latter would reduce the disease. Measures specifically directed against tuberculosis are not known to preventive medicine. But in future the fight against this terrible plague of mankind will deal no longer with an undetermined something, but with a tangible parasite, whose living conditions are for the most part known and can be investigated further.—Dr. Robert Koch, a translation by Berna Pinner and Max Pinner according to a paper read before the Physiological Society in Berlin, March 24, 1882, and from the Berliner klinische Wochenscrift, 1882.

MONTANA
State Medical Association

YELLOWSTONE VALLEY MEDICAL SOCIETY

The Yellowstone Valley Medical Society will hold its annual Spring Clinic at Billings, Montana, on Monday and Tuesday, May 28-29, 1951. The speakers on the program are:

Dr. Eugene A. Edwards, Assistant Professor of Obstetrics and Gynecology, Northwestern University.

Dr. John H. Fitzgibbon, Clinical Professor of Medicine, University of Oregon.

Dr. N. Frederick Hicken, Associate Professor of Clinical Surgery, University of Utah.

Mr. Norman J. Holter, Director, Holter Research Foundation, Helena, Montana.

Dr. Manuel E. Lichtenstein, Associate Professor of Surgery, Northwestern University.

Dr. Harold D. Palmer, Pathologist and Medical Director, Children's Hospital, Denver, Colorado.

Dr. Frederick E. Templeton, Professor of Radiology, University of Washington.

Reservations for lodging should be addressed to Dr. Edward W. Gibbs, Billings Clinic, Billings, Montana.

WYOMING
State Medical Society

Obituary

EARL GEORGE CLEGG

Dr. Earl George Clegg, 70, died March 31, 1951, at the Sheridan County Memorial Hospital, Sheridan, Wyoming, following a long illness. The cause of death was cerebral vascular accident.

He was born in Ainsworth, Iowa, and was graduated from the University of Illinois Medical Department in 1910. He was licensed in Wyoming in 1914.

He retired from practice at Monarch, Wyoming, in 1946. He is survived by one daughter and two brothers.

Auxiliary

The Woman's Auxiliary to the Wyoming Medical Society is happy to welcome a new County Auxiliary—the Northwest Wyoming Medical Auxiliary—organized early this year with Mrs. R. N. Bridenbaugh of Powell as President. They plan to sponsor the film "Nurse in White" in the local schools to encourage the girls to choose nursing as a profession.

The Sheridan County Medical Auxiliary, with Mrs. William F. Schunk as President, helped their Society select a suitable gift for the Nurses' Lounging Room at the hospital. Senator Mervin Champion of Sheridan was a guest speaker at the February meeting, explaining the Basic Science Law and other legislation pertaining to health scheduled to come up before the Legislature.

The Laramie County Medical Auxiliary, with

Head Pain as a Diagnostic Lead

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Since the etiology of the pain is the basis of rational management, the patient should be warned against taking medication before diagnosis is made.

Friedman[1] deplores the tendency to call any chronic recurring headache migraine. Careful history-taking and full physical and neurological examinations are essential for accurate diagnosis. A good starting point is a description of the headache — its character, laterality, frequency and intensity.[2]

The following chart gives briefly the primary diagnostic leads and treatment for the most common types of headache.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b.p. level; Dihydroergotamine. relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g-i. upset during headache.	To abort attack: oral ergotamine plus caffeine. General: adjustment to minimize nervous stress.

Data here tabulated is from: Wolf, G., Jr.,[3] and Friedman, A. P.[4]

Cecil[5] ranks vascular headaches, e.g., migraine and tension headaches, as the most commonly encountered of all. Because of their functional nature and usual recurrence at frequent intervals, they present a long-term therapeutic problem.

Therapy is conducted along two lines:

1) Psychotherapy to reduce the frequency of attacks. This consists mainly of advice on emotional adjustment to stressful situations and guidance toward a good balance between work and relaxation.

2) Treatment of the distressing attack to prevent the usual period of incapacitation. Many investigators have reported that ergotamine preparations are effective for relief of the acute migraine attack in 80% of cases.[1,6] *The drug is given immediately when an attack is approaching and dosage adjusted to the needs of the individual.*

1. Friedman, A. P. and von Storch, T.: 99th A.M.A. Session, June 1950. 2. Butler, S. and Hall, F.: M. Clin. N. Amer., p. 1439 (Sept.) 1940. 3. Wolf, G., Jr.: M. J. 34:25, 1951. 4. Friedman, A. P. and Conn, H. T.: Current Therapy, 1950, p. 563; Saunders Co., Phila. 5. Cecil, R. L.: A Textbook of Medicine, ed. 7, 1948, p. 1483; Saunders Co., Phila. 6. Horton, B. et al: Staff Meet. of Mayo Clinic 20:241, 1945.

Mrs. Glenn Koford as President, has been active in various local projects. They assisted in the addressing of envelopes during the Tuberculosis Seal drive and were active during the recent Red Cross drive. Several members volunteered to help drive children to and from the Crippled Children's School located at Cheyenne. Mr. Bob Campbell of the Blue Cross and Blue Shield Office spoke at the February meeting on the value of voluntary health insurance. The Auxiliary was pleased to have Mrs. Theodore Heinz of Greeley, Colorado, as guest speaker at the March meeting. Mrs. Heinz, who is the National Chairman of Public Relations of the Auxiliary to the American Medical Association, spoke about the public relation program of the Auxiliary to the AMA.

Mrs. Jay C. Wanner is President of the Sweetwater County Medical Auxiliary and reports routine business at their regular meetings. At the last meeting plans were discussed for the State Convention which will be held in Rock Springs the latter part of September. Mrs. K. E. Krueger, President-elect of the Wyoming Medical Auxiliary, is a member of this group.

MRS. FRANKLIN D. YODER,
Press and Publicity Chairman,
Woman's Auxiliary to the
Wyoming Medical Society.

The Book Corner

New Books Received

Cancer as I See It: By Henry W. Abelmann, M.D., Philosophical Library, New York. Price, $2.75.

Bases of Human Behavior: A Biologic Approach to Psychiatry: By Leon J. Saul, M.D., Professor of Clinical Psychiatry, University of Pennsylvania School of Medicine; Psychiatric Consultant, Swarthmore College; Lecturer, Bryn Mawr College. Philadelphia, London, Montreal: J. B. Lippincott Company. Price, $4.00.

Pioneer Doctor: By Lewis J. Moorman, M.D., University of Oklahoma Press—Norman. Price, $3.75.

Cornell Conferences on Therapy, Volume Four: Edited by Harry Gold, M.D., Managing Editor; David P. Barr, M.D.; Frank Glenn, M.D.; McKeen Cattell, M.D.; Walter Modell, M.D.; George Reader, M.D. New York: The Macmillan Company, 1951. Price, $3.50.

Eternal Eve, the History of Gynecology and Obstetrics: By Harry Graham, Garden City, N. Y. Doubleday & Company, Inc. Price, $10.00.

Personnel Administration in Public Health Nursing: By William Brody, Director of Personnel, New York City Department of Health; Lecturer in Public Health Administration, Johns Hopkins University; formerly Director of Personnel, National War Labor Board. Illustrated. St. Louis: The C. V. Mosby Company, 1951. Price, $3.25.

A History of Nursing: By Gladys Sellew, Ph.D., R.N., Chairman of Department of Sociology and Social Work, Rosary College, River Forest, Ill.; formerly Director, Department of Nursing, The College of St. Catherine, St. Paul, Minnesota; formerly Visiting Professor of Nursing Education, The University of Maryland, Baltimore, Md.; and C. J. Nuesse, Ph.D., Assistant Professor of Sociology, The Catholic University of America, Washington, D. C. Second Edition. Illustrated. St. Louis: The C. V. Mosby Company, 1951. Price, $3.75.

Medicine of the Year, Third Issue, 1951: Editorial Direction by John B. Youmans, M.D., Dean, School of Medicine, Vanderbilt University. J. B. Lippincott Company, Philadelphia, London, Montreal. Price, $5.00.

Hospital Staff and Office Manual: By T. M. Larkowski, M.D., F.A.C.S., Professor of Clinical Surgery, Stritch School of Medicine, Loyola University, Chicago, Illinois; and A. R. Rosanova, R.Ph., M.D., Clinical Instructor, University of Illinois Medical School, Chicago, Illinois. Romaine Pierson Publishers, Inc., Great Neck, N. Y., 1951.

Handbook of Pediatric Medical Emergencies: By Adolph G. DeSanctis, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Director of Pediatrics, University Hospital, New York University-Bellevue Medical Center; Director of Pediatrics, Gouverneur Hospital, New York City; and Charles Varga, M.D., Instructor in Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Assistant Attending Pediatrician, University Hospital, New York University-Bellevue Medical Center; Assistant Visiting Pediatrician, Gouveneur Hospital, New York City; with fifty-one illustrations. St. Louis: The C. V. Mosby Company, 1951. Price, $5.00

Immunology: By Noble Pierce Sherwood, Ph.D., M.D., F.A.C.P., Professor of Bacteriology, University of Kansas, and Pathologist to the Lawrence Memorial Hospital, Lawrence, Kansas; Third Edition; Illustrated. St. Louis: The C. V. Mosby Company, 1951. Price, $8.00.

Diabetes Mellitus, Principles and Treatment: By Garfield G. Duncan, M.D., Clinical Professor of Medicine, Jefferson Medical College; Director of the Medical Divisions of the Pennsylvania Hospital and the Benjamin Franklin Clinic, Philadelphia. Illustrated. W. B. Saunders Company, Philadelphia and London, 1951. Price, $5.75.

Annotated Bibliography of Vitamin E, 1940 to 1950: Compiled by Philip L. Harris and Wilma Kujawski of The Research Laboratories of Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company). Price, $3.00.

Book Reviews

The Antihistamines, Their Clinical Application: By Samuel M. Feinberg, M.D., Associate Professor of Medicine, Chief of Division of Allergy and Director of Allergy Research Laboratory; Saul Malkiel, Ph.D., M.D., Assistant Professor of Medicine, Director of Research, Allergy Research Laboratory; Alan R. Feinberg, M.D., Clinical Assistant in Medicine, Attending Physician in Allergy Clinic, Northwestern University Medical School. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago. Price, $4.00.

This short but comprehensive discussion of the antihistamines provides valuable information for all doctors. The indications and limitations concerning the uses of the various antihistamines are well covered. Emphasis is on the practical applications of the use of the antihistamines. The chapter on the role of histamine is interesting and informative.

IVAN W. PHILPOTT, M.D.

World Surgery, 1950: Stephen A. Zieman, M.A., M.D., F.A.C.S., F.I.C.S., Abstract and News Editor, Journal of the International College of Surgeons; Abstractor for International Abstracts of Surgery, and Surgery, Gynecology and Obstetrics; formerly Assistant Chief, Bureau of Publications, U. S. Navy Medical Department, and Assistant Editor, U. S. Navy Medical Bulletin. Fifty-three illustrations. Philadelphia, London, Montreal: J. B. Lippincott Company.

The author of this book is a rather unique combination of clinical surgeon and linguist who is able to read and evaluate the literature of many foreign countries. He has, therefore, sought to compose a book which would present new ideas from a great many sources and thus stimulate new lines of thought for the English speaking surgeon. In this endeavor he has succeeded.

The material is arranged by major fields; namely gastro-intestinal surgery, orthopedics, gynecology, etc., and an interesting miscellaneous. The book is in no way a textbook, but instead a collection of abstracts of articles which deal with unique cases or particularly significant series of cases or surgical technics. The reader

will certainly come away with new ideas of procedure and differential diagnostic possibilities. It is a book for the practitioner rather than the student.

The book is printed and arranged for very easy reading and the fifty-three illustrations are well selected and nicely reproduced. There are 161 pages of subject matter with three indices covering subject matter, authors and journals.

The book is recommended for reading and will almost certainly stimulate the reader into further study on several subjects.

MARVIN E. JOHNSON, M.D.

Researches in Binocular Vision: By Kenneth N. Ogle, Ph.D., Section on Biophysics and Biophysical Research; Research Consultant in the Section on Ophthalmology, Mayo Foundation and Mayo Clinic, Rochester, Minnesota. Illustrated. W. B. Saunders Company, Philadelphia and London, 1950. Price, $7.50.

In the foreword, Dr. Walter B. Lancaster states this book is an outstanding example of how an author should present his researches on a difficult subject. It is indeed a difficult subject, and deals with Dr. Kenneth Ogle's conclusions about the eighteen years of research in Binocular Vision at the Dartmouth Eye Institute. While sensorial and motor relationships cannot be separated in the actual use of the eyes this book deals mostly with the sensorial coordination of the two eyes in perception, especially space perception and not so much with the coordination of the eye movements to maintain the needed binocular single vision.

Research was done on: 1. The specific sensorial organization of two retinas. 2. Fusion. 3. Functional effect of altering the relative magnification of the images of the two eyes especially on the space sense. 4. Aniseikonia.

The book describes the principles and apparatus used in the studies of the longitudinal horopter using the apparent fronto parallel plane and compares the results with the expected geometrical result due to disparities in images in the two eyes. Careful measurements of Pamum's areas were made on special apparatus and the horizontal dimension compared with vertical dimension. It was found that meridional magnification of the image in one eye caused stereoscopic effects, but an overall magnifying lens over one eye did not, because the vertical magnification neutralized the horizontal magnification in the same eye. However, it was also found that the same qualitative stereoscopic effect could be achieved by a vertically magnifying lens in the left eye as by a horizontally magnifying lens in the right eye. This is the induced effect. Since this induced stereoscopic effect was present even though there was no horizontal disparity in the size of the image of each eye it must be due to central mental processes induced by the vertical disparities and central interpretation thereof. All of these effects were carefully studied by the author quantitively and mathematically as well as qualitatively.

There is also a beautifully lucid description with diagram of the "leaf room" which is a seven-foot cubic box to whose black interior various size leaves of various shapes are stapled to stand out with haphazard orientation. This provides good stereoscopic stimulation but no empirical or perspective clues for depth to the observer. When the "leaf room" observer wears a lens which magnifies the images horizontally

in the right eye, the floor slants up on the left, and down on the right. The ceiling slants oppositely—i.e., up on the right and down in the left. The vertical walls are still vertical but the right side of the front wall looks larger and closer than the left side while the back wall appears distorted and oppositely askew—i.e., the right side larger but further away than the left. This can be predicted geometrically, but when the same qualitative effects can be produced by vertically magnifying lens over the left eye geometry cannot explain or predict this. This induced effect is extensively investigated in the book as well as the scissors distortion produced by oblique axis magnifying lenses. There are good descriptions of the construction, principles and use of the direct comparison eikonometer and the space eikonometer, and a correlation of their results. Although this work is essentially non-clinical it is an authoritative source of the dependable basic truths so far discovered in the field of binocular vision.

HARRY S. KUPERSMITH, M.D.

Textbook of Endocrinology: Edited by Robert H. Williams, M.D., Executive Officer and Professor of Medicine, University of Washington Medical School, Seattle. With the Collaboration of Peter H. Forsham, Harry B. Friedgood, John Eager Howard, Edwin J. Kepler, William Locke, L. Harry Newburgh, Edward C. Reifenstein, Jr., William W. Scott, George Van S. Smith, George W. Thorn, Lawson Wilkins. Illustrated. W. B. Saunders Company, Philadelphia, London, 1950.

This book is very excellent for students of endocrinology. It has brought the present knowledge of endocrine disorders up to date.

The clinical data presented throughout the book is well supported by experimental evidence. The chapter on the adrenals contains the new developments in endocrinology which have been opened with the use of A.C.T.H. and Cortisone. Each chapter contains a very excellent and complete bibliography.

W. BERNARD YEGGE, M.D.

Proctology in General Practice: By J. Pearman Nesselrod, B.S., M.S., M.Sc. (Med.), M.D., F.A.C.S., F.A.P.S. Associate in Surgery, Northwestern University Medical School; Associate Surgeon, Division of Proctology, Evanston Hospital, Evanston, Illinois; Certified by the Central Certifying Committee in Proctology (Founders' Group) of the American Board of Surgery; Commander (MC), USNR. Illustrated. W. B. Saunders Company, Philadelphia, London, 1950.

This is an excellent textbook written for students, general practitioners, and those interested in proctologic disorders. It is clear, concise, and up-to-date in its approach to diagnosis and treatment of anorectal disorders without being too didactic.

The first chapter on the anatomy of the anus and rectum is very well done. Throughout the book the pathologic and physiologic processes involved are correlated with the anatomy to make the proctologic disorders encountered more easily understandable.

Each chapter presents in detail the diagnostic, pathology and treatment of a proctological disorder, e.g., hemorrhoids, fistula, carcinoma, etc. The illustrations and the photography are superior.

The book is well written and gives the reader not only Dr. Nesselrod's opinions, but those of the leading proctologists. Any physician should find it instructive and most useful as a reference.

THOMAS F.. JACQUES, M.D.

Tuberculosis Abstracts

Issued Monthly by the National Tuberculosis Association

Vol. XXIV MAY, 1951 No. 5

DIAGNOSIS OF PULMONARY LESIONS DISCOVERED BY MASS ROENTGENOGRAPHIC SURVEY

PART I

Dumont Clark, M.D., Carl W. Tempel, M.D., and Kenneth D. A. Allen, M.D., The Journal of the American Medical Assiciation, July 15, 1950.

The technic of mass roentgenography of the chest uses a small film that is not diagnostic, but indicates abnormalities which must be identified by further studies including a 14" x 17" roentgenogram.

The identification of a pulmonary lesion is no different from that of a diseased condition elsewhere. The history is of the greatest importance, especially that part dealing with contact with tuberculosis, the regions of the country in which the patient has resided, his occupations, age, sex, race and family history.

It is to be understood that the radiograph should be of good detail, optimum contrast and proper density. Evidence of early disease can be obliterated from the roentgenogram of an infected case, or can be simulated in a normal chest, by poor films. Interpretation of the radiograph is the important item.

Use of a fluoroscope is not only completely inadequate for the detection of early disease but can be a menace by producing a false sense of security.

The physical examination of the chest and the lungs is disappointing in most chronic pulmonary diseases, especially in the discovery of an early lesion. However, an evaluation of the circulatory status of the patient by physical examination may be of value. Enlarged external lymph nodes, by their location, number and consistency, may indicate carcinoma, sarcoidosis, tuberculosis, a blood dyscrasia or lymphoma. A biopsy of the node may then settle the diagnosis.

The differential diagnostic value of the temperature, pulse, and respiratory rates is not great. A rise in temperature may indicate an infectious process. Changes in the pulse and respiratory rates, in the blood cell count, the sedimentation rate, and urinalysis are common phenomena whose significance is well known.

Specific Diagnostic Procedures

Three different skin tests are commonly used, the tuberculin, the coccidioidin and the histoplasmin. If properly performed, these tests are reliable for the disease in question. With few exceptions, a repeated negative reaction rules out the disease in question.

If the patient with a pulmonary lesion has sputum, a twenty-four hour specimen should always be examined for tubercle bacilli. Without sputum, it will be necessary to culture the fasting gastric contents for tubercle bacilli. Nearly all pulmonary lesions are suspect for tuberculosis primarily. When establishing a diagnosis of tuberculosis, the laboratory should culture the sputum for tubercle bacilli, or inoculate guinea pigs, as well as examine smears. Smears of gastric contents have little value because acid-fast bacilli other than the tubercle bacilli are common.

Sputum which is to be cultured for fungi should be coughed up after the patient rinses out his mouth with water or preferably a dilute solution of alcohol and water to remove the frequent mouth contaminants. Sabouraud's mediums, or the ordinary blood agar mediums are generally used for culture. The identification of

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Hotel reservations should be made directly with the Olympic Hotel, Seattle, Washington, and the hotel advised that you are attending this Postgraduate Assembly.

the fungus is a matter for the expert. It is difficult to culture pathogenic fungi from the stomach.

Carefully obtained samples of sputum can be studied by the Papanicolaou technic for malignant cells, which if definitely identified, are diagnostic of bronchogenic carcinoma. All patients with suggestive bronchogenic carcinoma should have a bronchoscopic examination.

A Wassermann or Kahn test of the blood should be made for every patient. Cold agglutinins are found in the serum of most patients with a typical pneumonia after the first week. Antibodies for fungus antigens are frequently present in the blood during the active stages of the infection.

Bronchoscopic examination is a highly specialized technic which should be done only by the expert. It is used to secure biopsy sections, to observe the lumen of the bronchi, and to aspirate bronchial secretions. It can be done a few days after hemoptysis; it is used freely in patients with any stage of pulmonary tuberculosis, and age is not a factor. A seriously ill patient should not, as a rule, undergo bronchoscopic examination.

The bronchogram, or roentgenogram made after the instillation of radiopaque oil, usually iodized oil, into the bronchial tree, is used in the diagnosis of bronchiectasis. Iodized oil, which may be retained for long periods, may obscure lesions or simulate disease in a normal lung.

It is occasionally recommended that streptomycin be given to a patient who has an undiagnosed lesion of the chest. If, under this treatment, the lesion improves in two or three months, this suggests that it is tuberculous in nature. Its use in this manner has little to commend it.

Pneumoperitoneum and pneumothorax are generally used as therapeutic measures. A pneumoperitoneum will show the position of the diaphragm. It will also show whether a lesion at the base of the lung is above or below the diaphragm. Pneumothorax has been used to delineate a pulmonary lesion but it is rarely used for this purpose now.

Fluoroscopic examination of the esophagus, posterior mediastinum, and stomach while the patient swallows a barium suspension can give important information especially when diaphragmatic hernia is present.

Thickened pleura and pleural fluid are often indistinguishable when the above diagnostic procedures are used. If fluid is present, it generally can be found with a needle and should be cultured for the tubercle bacillus and other organisms. With the development of the cytologic technic for the detection of bronchogenic carcinoma, there is little need for needle biopsy of chest tumors.

The Valsalva procedure and the angiocardiogram are mentioned only for the sake of completeness. Both are used to detect an arteriovenous shunt in the lungs although the angiocardiogram has other uses.

Exploratory thoracotomy is resorted to when all the previously discussed diagnostic procedures fail to determine the nature of a pulmonary lesion. The surgical procedures accomplished after the lung is entered may be simple biopsy, removal of a segment of the lung, lobectomy, or pneumonectomy, depending on the nature of the lesion and the judgment of the surgeon. The decision to explore should be made with the advice and help of the thoracic surgeon.

Note. This is the first of two abstracts dealing with the diagnostic procedures and differential diagnosis of pulmonary lesions found either on the small film used in mass roentgenography of the chest or on the diagnostic roentgenogram.

The second part of this paper will be used to prepare the June, 1951, issue of Tuberculosis Abstracts.

The American Trudeau Society, medical section of the National Tuberculosis Association, has approved the administration of BCG vaccine to nurses, physicians and hospital attendants, who have negative tuberculin tests, because these individuals are almost constantly exposed to tuberculous infection from known and unknown tuberculous patients. It also approves BCG for (1) the Indians, (2) inmates and attendants in institutions for mental patients, and (3) in slum areas in certain large cities where proper housing and living conditions have not as yet been achieved. For the same reason it is justified as a temporary expedient in some countries where the tuberculosis death rate is high and facilities for isolation and treatment almost non-existent. The approval of the Trudeau Society for the use of BCG under these conditions was given with the full knowledge that only slight protection would be achieved and in no sense as a substitute for an adequate program of case finding, isolation, and treatment.—The NTA Bull., David T. Smith, M.D., March, 1951.

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1. Gardner, L. I., Butler, A. M., et al.: *Pediatrics* 5:228, 1950.
2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. Dodd, K., and Rapoport, S.: *Am. J. Dis. Children* 78:537, 1949.
4. Recommended Daily Dietary Allowances, Revised 1948, Food and Nutrition Board, National Research Council.

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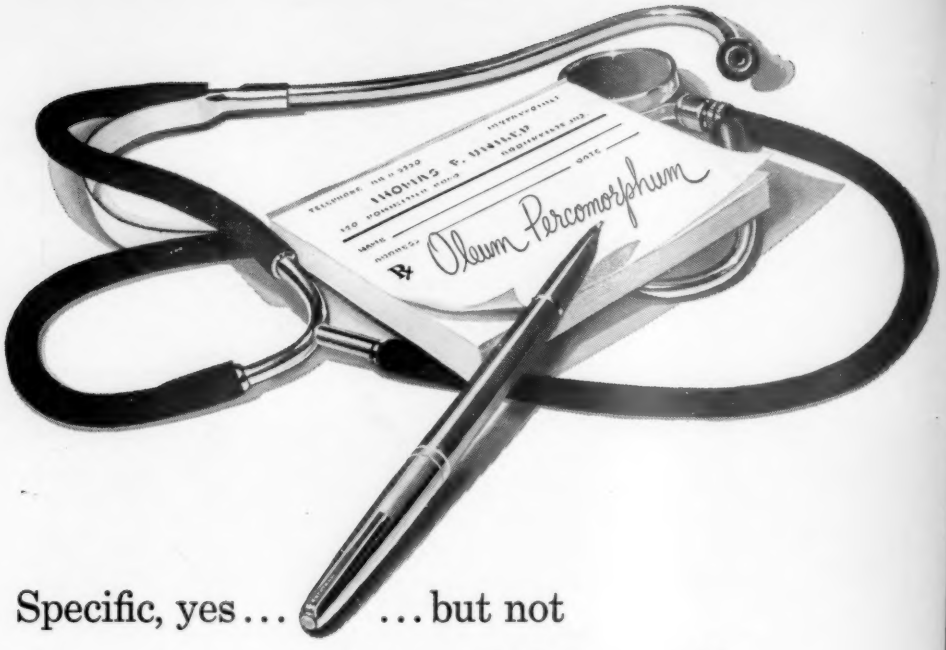

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